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INDIAN AGRICULTURAL
SCIENCE INSTITUTE, NEW DELHI.

28479/36

L.A.R. 1.6.54

MCIPG 1.6.54 AR/54-7-7-54-10,000

INTERNATIONAL COTTON STAT

INTERNATIONAL COTTON BULLETIN

Official Organ of the International Federation
Cotton Spinners' & Manufacturers' Associations, Ltd.



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(VOL. XIII, No. 19)

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Extract of letter dated June 7th, 1934, from one of our advertisers -

"I just want to say that we have enjoyed very much our association with you. To be perfectly frank, the advertisements we have carried in your Bulletin are the only advertisements in any magazine or newspaper that we have ever been able to trace any results to."

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INTERNATIONAL COTTON BULLETIN

No. 49. Vol. XIII, 1.

October, 1934.

Published quarterly by the International Federation of Master Cotton Spinners' and Manufacturers' Associations, Manchester. Edited by N. S. Pearce, General Secretary, Manchester. The Committee of the International Federation of Master Cotton Spinners' and Manufacturers' Associations do not hold themselves responsible for the statements made or the opinions expressed by individuals in this Bulletin. Subscription £1 0 0 per annum.

COMMITTEE'S COMMUNICATIONS.

The AUTUMN MEETING of the INTERNATIONAL COTTON COMMITTEE was held on the 23rd October, 1934, at the Adlon Hotel, Berlin.

There were present: Messrs. Paul Schlumberger (in the chair), Otto Amminger (Austria), R. Brasseur (Belgium), H. Windfeld-Hansen (Denmark), W. H. Catterall, J.P., Frederick Holroyd, J.P., John Pogson (England), R. A. de la Beaumelle (France), Dr. Hendrik van Delden, Geh. Komm. Otto Lindenneyer, Dr. Walter Bohm (Germany), Joan Gelderman (Holland), Dr. G. Mylius, Prof. G. Olivetti (Italy), Yosaburo Ito (Japan), Axel Bergengren (Sweden), Caspar Jenny (Switzerland), Arno S. Pearce (Expert Adviser), Norman S. Pearce (General Secretary). Rechtsanwalt Amfaldern and Dr. Pungs were also in attendance.

Discussions were held on the cotton-spinning conventions and agreements at present in operation in the various countries. Reports had previously been submitted from Austria, Czecho-Slovakia, France, Germany, Holland, Italy, Poland and Spain. The

English delegates placed before the meeting details of the scheme recently submitted to the English cotton spinning industry. After a general discussion it was finally decided that a Sub-committee should be formed to study the various schemes submitted and to submit a model scheme to the International Cotton Congress to be held in Milan and Rome in April and May next year.

OIL STAINS IN INDIAN COTTON

The question of oil stains in Indian cotton arising out of complaints received from the German Associations was further dealt with, and it was decided that representations should be made to the Indian Central Cotton Committee to rectify the law governing the marking of baling hoops. In the opinion of the Committee the present system of marking bales of Indian cotton is both inadequate and unsatisfactory inasmuch as the spinner is now deprived of the opportunity of tracing the name of the press from which the cotton has emanated.

FALSE PACKED BALES OF AMERICAN COTTON

It was reported by various associations that persistent complaints had been received of false packed bales of American cotton and it was resolved that steps should be taken to bring the matter further to the notice of the United States Department of Agriculture and other cotton growing organizations concerned to urge strongly its elimination.

SISAL AS A COTTON BALE COVERING

The use of sisal hugging as a covering for cotton came under discussion, but no resolution was taken in connection therewith.

STATE OF TRADE REPORTS

The state of trade reports were submitted by various associations, and will be found on pp. 5-18.

MILAN AND ROME COTTON CONGRESSES

The Provisional Programme for the forthcoming Congress was submitted by the Milan Association, and it was finally decided upon in the form given below -

Provisional Programme:

SUNDAY, April 28th

The day to be devoted to meetings of the JOINT EGYPTIAN COTTON COMMITTEE at the Offices of the Italian Association, Milan.

MONDAY, April 29th

International Cotton Committee Meeting, in the morning. If necessary, Meeting of Joint Egyptian Cotton Committee in the afternoon.

Reception by the Mayor of Milan in the late afternoon, or early evening.

TUESDAY, April 30th

Journey from Milan to Genoa by special train in the morning

Lunchcon at Genoa

Embark on S. COLOMBO DI SAVOIA at 5 p.m. and sail to Naples

Banquet offered on board to all Delegates by the Italian Cotton Association

WEDNESDAY, May 1st

7 a.m. Arrival in Naples. Morning free. Late afternoon, Departure for Rome by special train

Allocation of Delegates to various hotels in Rome. International and Joint Egyptian Committees will stay at Hotel Excelsior

THURSDAY, May 2nd

Official Opening of the Congress at 10.30 a.m.

Afternoon First Session of Congress

FRIDAY, May 3rd

Resumption of Congress

SATURDAY, May 4th

Final Session of Congress at 10 a.m.

Resolutions

Closing of Congress

Note: All Delegates with the exception of the International and Joint Egyptian Cotton Committee to make their own hotel arrangements

Delegates may join the Congress party at Genoa, should this course be more convenient

The following subjects were selected for discussion at the Congress

- (1) Yarn Conventions and Price Agreement Schemes. Suggestion of formulating a model agreement for controlling production and prices
- (2) The Effect of the Price of Silver upon the World's Cotton Trade

- (3) Egyptian cotton subjects
 - (a) Universal standards
 - (b) Closer co-operation between the producer and the spinner
 - (c) Cotton versus jute as a bale covering
 - (d) Law relating to the marking of each variety on each bale
 - (e) Report of Activities of the Alexandria Testing House
- (4) The Position of American Cotton in the World To-day
- (5) The Qualities in Cotton Required by the Spinner
- (6) The Competition of Non-Cotton Fibres with Cotton
- (7) Impediments to International Commerce and Means to Overcome These

During the course of the meeting the Committee adjourned and paid a visit to the Counsel Chamber at the German Chancellery, in order to be received in audience by Dr. Schacht, the President of the Reichsbank, who introduced each delegate to Fuhrer Adolf Hitler



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AUSTRIA.

SPINNING SECTION.

Employment in the Austrian cotton spinning mills during recent months has been exceptionally variable. Sales were particularly unfavourable in July, in which month a low record was reached in the sales figure. In the month of August a revival set in, but did not last long. The spinning mills on an average are occupied to about 80 per cent. of their capacity on a single shift basis. About a month ago export business appeared bright, as numerous inquiries were to hand from the buying districts. However, only very moderate contracts have been concluded, because the Austrian yarns are not sufficiently competitive in a number of countries on account of the unfavourable quotation of the schilling rate in comparison with the rates of other currencies, furthermore, the remaining buying districts again offer no guarantee for regular settlement. Accordingly, the prospects with regard to the future development of the yarn export business must be judged with reserve. The official trade statistics to hand for the first seven months of the current year show, as regards the cotton yarn export business, the following figures:

	1931	1932
	In 100 kgs.	
Yarn:—	30,388	27,356
bleached	3,493	1,551
dyed	666	818
Total	31,167	29,728

In comparison with this, the yarn import shows in the same periods a drop of 8,851 to 7,872 (100 kgs.), which is certainly not considerable.

WEAVING SECTION.

During the summer months seasonal employment was bad, and also the beginning of the autumn business was below expectations. At the same time, the mills are employed to about 70 per cent. of their one-shift capacity. The basis of prices, however, is exceptionally unfavourable, and has in particular led to the practice of selling under cost of production. The imports of cotton textiles

as compared with the previous year again show a rising tendency which may be seen from the following figures

		January to July 1934	July 1933
		in 10000	
Cotton piece goods	100%	10 803	8 900
	dyed	10 3	11
	printed	9 1	11
	woven cotton cloth	16 8	151
Total		1 802	1 11

The business prospects of the cotton weaving trade are on the whole unfavourable because the buying power conditions have experienced no improvement, which is partly due to internal political events. The wage level has experienced no important change during the last few months, inasmuch as no displacements had to be effected in connection with the application of new working methods.

The following is the original report in German

BAUMWOLLSPINNEREIEN

Die Beschäftigung der Oesterreichischen Baumwollspinnereien war in den letzten Monaten ausserordentlich schwankend. Besonders ungünstig hat sich der Absatz im Juli gestaltet, in welchem Monat ein Tiefpunkt in den Verkaufsziffern erreicht wurde. Im August ist wieder eine Belebung eingetreten, die aber nicht lange anhielt. Durchschnittlich sind die Spinnereien mit ca. 80% ihrer Kapazität im einfacher Schicht beschäftigt. Das Exportgeschäft schien vor ca. 1 Monat aussichtsvoll, da zahlreiche Anfragen aus den Absatzgebieten vorlagen. Es ist jedoch nur zu sehr bescheidenen Abschlüssen gekommen, weil die Oesterreichischen Garne in einer Anzahl von Ländern wegen der ungünstigen Gestaltung des Schillingkurses gegenüber dem in anderen Devisen nicht genügend konkurrenzfähig sind, während die restlichen Absatzgebiete wieder keine Gewähr für eine ordnungsmässige Zahlungsbewicklung bieten. Demnach muss auch die Ausrichtung hinsichtlich der künftigen Entwicklung des Garneinfuhr-Geschäftes nur zurückhaltend beurteilt werden. Die amtliche Handelsstatistik, welche für die ersten 7 Monate des laufenden Jahres vorliegt, weist hinsichtlich der Baumwollgarneinfuhr die folgenden Ziffern aus: -

		1934 in je 100 k	1933
Garne 10h	geblickt	30 388	27 356
	gefärbt	3 423	1 554
		656	818
zusammen		34 467	29 728

Demgegenüber weist die Garneinfuhr in der gleichen Periode einen allerdings nicht erheblichen Rückgang von insgesamt 8,851 auf 7,872 mq auf.

BAUMWOL I WIELKI I I N

Während der Sommermonate war die Nachfrage im Sommer-
gemäss schlechte und auch der Beginn der Herbstschneefälle hat
die Erwartung enttäuscht. Immerhin und die Produktion ist
ca. 70% der einrichtlichen Kapazität befreit. Die Er-
bildung jedoch ist ein unvorhersehbar unvorhersehbar und
insbesondere dazu führt, dass in den Stapelartikeln für Roh-
durchwegs unter Kalkulation verkauft wird. Die Einführung
Baumwollgewebe zeigt gegenüber dem Vergleich wieder eine
steigende Tendenz, was aus den folgenden Zahlen erhellen

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Die schriftlichen Ausichten der Baumwollweberei sind im allgemeinen keine günstigen, weil die Kaufkraftverhältnisse keine Besserung erfahren haben, was zum Teil mit den innerpolitischen Verhältnissen zu tunnehmen ist. Da die Löhne in der Weberei während der letzten Monate keine nennenswerte Veränderung erfahren, in weit mehr Ausdehnung in Zusammenhang mit der Anwendung neuer Arbeitsmethoden vorzunehmen werden müssen.

And the fundamental principle of the law of the land

BELGIUM

The summer period usually marks a lowing down of commercial transaction in the cotton industry.

A result of the circumstances the central impression is still more unfavourable than the one given in my previous report.

The short period time in which it fell well below the considerable fall resulted from the American strike, but not allowed the buyers to restore their confidence, and then a deterioration in the market is clearly shown by the depression in price.

The pineapple industry is making great effort to expand export and is keen to make offer in different market.

Unfortunately, the monetary difficulties are such that manufacturers in return from bookin order for export in case they should find it impossible to secure payment.

As we have previously stated the failure of part of our markets has made the production capacity of our cotton mill excessive. Discussions between farmers have been in progress for several months to try to remedy this situation, but the excessive individualism of a few manufacturers has caused the failure of all the suggestions offered up to the present.

Since the beginning of the crisis 7,000 spindles have been destroyed. Added to the spindles of the mills completely closed, they represent from 10 to 15 per cent of the equipment of the Belgian spinning industry.

Since our last report there have been no general modification in the wages of the cotton operatives.

The following is the original report in French

La période d'été marque généralement un ralentissement de transactions commerciales dans l'industrie cotonnière.

Par suite de cette circonstance, l'impression d'encombrement est déjà vorable encore que celle qui se dégageait de nos rapports précédents.

La courte période de hausse des cotons bruts, suivie de la baisse importante résultant des grèves américaines n'a pas permis aux acheteurs de reprendre confiance et leur abstention du marché s'est manifestée par la dépression des prix.

La filature fait de gros efforts à l'exportation et, sur divers marchés elle est sollicitée de passer des contrats.

Malheureusement les difficultés d'ordre monétaire ont telle que les industriels renoncent à inscrire des ordres à l'exportation par crainte de se trouver dans l'impossibilité de se faire payer.

Comme nous l'avons indiqué précédemment, une partie d'une partie de nos débouchés a rendu excessive la capacité de production de nos usines cotonnières. Des pourparlers entre filateurs ont eu cours depuis plusieurs mois pour trouver un remède à cette situation mais l'individualisme excessif de quelques industriels a fait échouer tous les projets présentés jusqu'à présent.

Depuis le début de la crise, 75,000 broches ont été détruites. Ajoutées aux broches des usines entièrement fermées, elles représentent de 10 à 12 pour cent de l'outillage des filatures belges.

Depuis notre dernier rapport, il n'y a pas eu de modifications générales apportées aux salaires des ouvriers cotonniers.

ENGLAND.

SPINNING SECTION

Little improvement had taken place in the spinning section of the cotton industry since the last report. Apart from spindle that were indefinitely stopped, those in active mills were only working up to approximately 70 per cent capacity.

WEAVING SECTION

The Lancashire weaving section is only working approximately 70 per cent of full time. Cloth prices are poor owing to demand being slack, but it is hoped that when the new wage agreement has been settled and put on a satisfactory basis prices will become more stabilized.

Under the proposed new wages agreement, which has still to be voted upon by the industry, the proposed new wages rates are as follows:—

Four-loom weavers, 20 5d per 100,000 picks

More-loom weavers, 18 2d per 100,000 picks

No alteration is proposed in the basic price and method of calculation under the Colne Coloured Goods List.

The above new rates amount to a reduction of 5 per cent on the present wages of weavers working four looms and of the uniform list and an advance of 4 per cent on the cost of weaver working more than four looms.

FRANCE.

The situation in the French cotton industry has become considerably worse during the course of the third quarter of 1934, both from the point of view of price and also as regard demand.

Prices which were already poor have gone from bad to worse. In spite of the increased short time instituted by regional schemes for reduction of output, the demand is still less than the present production, this state of affairs naturally causes an accumulation of stocks and renders the position of the mills extremely precarious.

The degree of activity in the spinning section is at the moment estimated to be about 55 per cent (American and Egyptian sections) and at 60 per cent for the weaving section.

No modification has taken place in wages during the course of the quarter under review.

The following is the original report in French.

La situation de l'industrie cotonnière française s'est encore sensiblement aggravée au cours du troisième trimestre de l'année, au double point de vue des prix et de la demande.

Les prix qui étaient déjà mauvais sont devenus pires. Quant à la demande, malgré l'accentuation du short time réalisé par les ententes régionales de chômage, elle est encore inférieure à la production, ce qui provoque naturellement un accroissement du volume des stocks et rend de plus en plus précaire l'alimentation des usines.

Actuellement le degré d'activité des manufactures peut être évalué à environ 55 pour cent pour la filature (Amérique et Égypte) et à 60 pour cent pour le tissage.

Aucune modification de salaires n'est intervenue au cours du trimestre en revue.

COMMERCE EXTERIEUR

1934	
1er trimestre	2 ^e trimestre
En millions	En millions
quantité	quantité
Quantités Métriques	(Métriques)

IMPORTATIONS

IMPORTS

1 Fil de coton	1 682	1 700
<i>Cotton yarn</i>		
2 Tissu de coton et autre article manufacturé	2 807	2 930
<i>Cotton cloth and other manufactured article</i>		

EXPORTATIONS

FABRICS

	1934	
	for time to Unit unit (Quintaux) (Metric tonnes)	time to Unit Unit (Quintaux) (Metric tonnes)
1 Fils de coton, exportation totale <i>Cotton yarns, total export</i>	16 942	15 55
Destinations <i>Destination</i>		
Algérie Colonies françaises et pays de protectorat <i>Algeria French colonies and protectorates</i>	100	155
Marchés étrangers <i>Foreign markets</i>	12 95	14 89
2 Tissus de coton et autres articles manufacturés ex- portations totales <i>Cotton cloth and other manufactured article, total export</i>	107	85 15
Destinations <i>Destination</i>		
Algérie Colonies françaises et pays de protectorat <i>Algeria French colonies and protectorates</i>	91 00	70 95
Marchés étrangers <i>Foreign markets</i>	16 229	14 85

(Syndicat Général de l'Industrie Cotonnière Française)

GERMANY.

WEAVING SECTION

The high degree of activity of the South German cotton weaving mills existing hitherto could also be maintained for the greater part of the month of July, but, since the coming into force of the Government decree which provides for a temporary limitation upon the use of foreign yarn materials, by reason of the unfavourable German exchange situation, has, since July 23, had to be correspondingly reduced.

The large number of orders to which we referred in our last report also covers the next few months.

A tendency to place new contracts is also shown by customers.

The following is the original report in German

BAUMWOLLWEBEREI

Der bisherige gute Beschäftigungsgrad der süddeutschen Baumwollweberei konnte auch im grossen Teil des Monats Juli aufrecht erhalten werden, musste aber seit Inkrafttreten der Regierungsverordnung, welche aus Gründen der ungünstigen deutschen Devisenlage eine vorübergehende Beschränkung der

Verwendung ausländischer Faserstoffe vorsichtiger als im Juli entsprechend herabgesetzt werden.

Der hohe Auftragsbestand, auf den wir in unserm letzten Bericht hinwiesen, hatten sich nicht auch heute noch vermindert. Die Abnahmeschicht zerfällt auch Neigung zu einer Abkühlung.

(*Vertr. Suddeutscher Textil-Industrie-Ver.*)

SPINNING SECTION

On account of the foreign currency position there was unchanged demand for cotton yarn during the third quarter of 1934 with the result that it became more difficult for the cotton spinning mills to attract buyers.

In all branches of the cotton spinning trade keen endeavour was made to maintain employment at as high a level as possible, by means of finer spinning and by the utilization of artificial fibres.

Sales as well as employment in the Vireone and two cylinder spinning mill may be described as good. The buyers' demand over to the use of yarn manufactured from raw material not subject to foreign currency has further increased.

(*Vertr. d. Baumwollspinn- u. Webindustrie in Oester.*)

SPINNING

Die Nachfrage nach Baumwolle nimmt auch im III. Quartal 1934 unverändert lebhaft, sodass auch die Baumwollspinnereien wegen der Devisenschwierigkeiten wurde die Abnahmeschicht zu beklagen.

In allen Zweigen der Baumwollspinnereien wurden lebhaft Anstrengungen gemacht die Beschäftigung durch feinere Ausspinnung und durch Mitverwendung nicht bewirtschafteter Spinnstoffe möglichst hoch zu halten.

In der Vireone und Zweizylinder spinnereien waren sowohl die Verläufe wie auch die Beschäftigungslage gut zu bezeichnen. Die Unterteilung der Abnahmeschicht auf den Verbrauch von Geponsten, die in nicht devisenpflichtigem Rohmaterial hergestellt wurden, hat weiter zugenommen.

(*Vertr. d. Land der Deutschen Baumwollspinn- u. Webindustrie*)

HOLLAND.

SPINNING

The demand for cotton yarns has improved somewhat, and more orders for export have been booked. The greater part of these orders were sold to Germany, but in the last few weeks this business has come to a standstill on account of transfer difficulties. The demand for home trade is still very poor, and the greater part of the spinning mills are still working short time. Prices are very poor and the spinning margin is quite unsatisfactory.

WEAVING

The demand for the home trade has improved to a slight extent, owing to the autumn season, but altogether the demand is con-

siderably less than the year before. A few more orders have been booked for export, chiefly for the Dutch East Indies, and also for other markets where quotas have been imposed. Most of this business has been put through at very low prices, and altogether conditions are far from satisfactory.

ITALY.

The position of the Italian cotton industry during the third quarter of this year has become worse as compared with the previous quarter. The causes of this may be found both in the difficulty of exporting, in the diminished demand from the home market; and the work of the spinning and weaving mills has thus been appreciably reduced.

Consequently, prices have also been low and employment reduced, while wages have remained unaltered. Figures for the export trade as on August 31 were as follows:—

	1934	1933
	(In 100 kgs.)	
Yarns	177,027	187,553
Cloth	162,796	221,622
Totals	339,823	409 1'

The following is the original report in Italian:—

La situazione dell'industria cotoniera italiana durante il 3° trimestre di quest'anno è peggiorata rispetto al trimestre precedente.

Le cause sono da ricercarsi oltre che nelle difficoltà dell'esportazione anche nella diminuita domanda per l'interno del Paese, per cui l'attività delle filature e delle tessiture si è sensibilmente ridotta.

Il tono dei prezzi è stato quindi fiacco e l'occupazione operaia in leggera contrazione, mentre i salari sono rimasti invariati.

I risultati dell'esportazione al 31 agosto erano i seguenti:—

	1934	1933
	(In quintali)	
Filati	177,027	187,553
Tessuti	162,796	221,622
Totale	339,823	409,175

(Associazione Italiana Fascista degli Industriali Cotonieri.)

JAPAN.

The first half of 1934 witnessed a continuance of the prosperity which the cotton industry enjoyed after the restoration of the gold embargo in 1931. Every index connected with the industry showed a healthy improvement in spite of the tariff measures enacted in British colonies against Japanese textile goods.

While exports to China continued dull and shipments to British India showed a slight decrease in consequence of the import quota enforced by the Indo-Japanese pact recently signed, the export trade to Dutch East India, Manchoukuo, and other Asiatic countries, such as the Straits Settlements, the Philippine Islands and Siam, continued to increase. The gain in exports to South America and Africa was also very marked.

Shipments to Chile and Uruguay during the first five months of this year increased by 317.1 per cent. and 998.6 per cent. respectively over the corresponding period of 1933, which in turn showed a heavy increase over 1932. Exports to Egypt and especially East Africa rose considerably, and more than made good the loss suffered in South Africa, the total shipments to Africa increasing by 35.4 per cent. and 132.7 per cent., compared with the corresponding period of 1933 and 1932 respectively

JAPANESE EXPORTS OF COTTON PIECE GOODS BY DESTINATION
(in thousand square yards)

	1930	1931	1932	1933	1932 Jan.-May	1933 Jan.-May	1934 Jan.-May
Asia—							
Manchoukuo (including Kwantung Province)	15,309	58,988	104,015	177,051	38,555	81,150	90,609
China	136,409	218,401	187,410	141,918	73,304	78,995	42,084
British India	104,251	104,411	644,085	151,808	221,157	216,535	197,254
Straits Settlements	44,552	41,305	82,225	95,760	21,025	20,792	17,220
Dutch East India	142,465	212,107	352,231	423,000	100,760	151,645	189,030
Philippine Islands	35,127	33,423	21,110	34,014	6,816	7,213	27,655
Siam	16,132	5,884	24,458	30,826	5,130	16,047	22,441
Turkey	20,859	25,150	41,529	11,157	10,688	5,055	2,034
Total (incl. others)	1,340,248	1,138,829	1,590,960	1,433,470	518,800	623,001	690,985
Europe—							
Balkan countries	3,707	15,510	12,215	15,557	200	1,354	735
South America—							
Chile	6,176	2,360	1,263	6,534	570	1,564	6,521
Argentina	7,280	10,540	22,161	34,942	4,506	13,085	14,604
Uruguay	404	490	306	2,611	190	304	3,340
Total (incl. others)	23,405	16,590	27,922	57,337	6,047	10,480	40,340
Africa							
Egypt	109,015	103,799	193,435	210,351	56,800	87,001	114,786
Union of South Africa	23,686	39,033	36,316	25,101	6,596	10,516	4,990
Others (East Africa)	36,620	52,824	76,416	186,740	35,164	71,990	109,751
Total	178,730	225,085	350,101	423,232	98,620	169,510	229,533
Oceania—							
Australia	11,153	20,930	35,992	54,997	5,733	21,307	22,525
Total (incl. others)	11,943	21,600	37,230	57,619	9,105	25,328	23,470
Grand total	1,571,825	1,413,790	2,031,732	2,090,225	639,907	856,051	1,013,154
Value in thousand yen	272,114	198,732	288,713	363,215	54,506	153,160	190,653

The most important factor in the success of this export trade was undoubtedly the decline of the yen exchange rate, but the growing competitive power of Japanese cotton textiles was judiciously fostered by the incessant endeavours for greater efficiency among the companies. Factories were able to make large outlays from their plentiful reserves for the enlargement and reconstruction of installations on the most up-to-date pattern. Compared with the end of 1929, the total number of spindles at the end of May, 1934, showed an increase of 2,000,000, totalling about 8,800,000 spindles. Out of this number, 5,000,000 spindles are

high-dialt rings. Spinning efficiency, therefore advanced considerably, the number of bales per worker per month rising as follows:—

1927	1929	1931	1932	1933	May, 1934
1.23	1.46	1.81	1.85	1.99	2.04

Considering the tendency of concentrating on finer counts, the improvement in efficiency has been much greater than appears from the above statistics on the output per worker. The greatest part in production has changed from 20's to 22's counts to medium counts (23's to 44's). The percentage occupied by 23's to 44's, in the first four months rose to 37.8 per cent. of the total production against 37.1 per cent. and 32.3 per cent. in the corresponding period of 1933 and 1932, whilst 20's to 22's counts and counts under 19's showed a gradual decrease.

PRODUCTION OF COTTON YARN BY COUNTS

		(in bales)															
		19's		20-22's		23-44's		13's									
		bales	%	bales	%	bales	%	bales	%							Total	bales
1929		827,863.5	29.6	878,405.5	31.5	934,091.5	35.3	101,825.5	3.6							2,702,586.0	
1930		780,493.0	30.9	808,560.0	32.0	844,426.5	33.1	101,214.5	4.0							2,524,690.0	
1931		809,822.5	31.5	803,442.0	31.3	814,398.5	31.7	139,470.5	5.4							2,567,133.5	
1932		797,130.5	28.4	890,021.5	31.9	957,915.0	34.1	158,420.5	5.6							2,810,437.0	
1933		877,043.0	28.3	911,139.5	30.4	1,115,000.0	36.9	138,064.5	4.4							3,009,856.0	
1932 Jan.-Apr.		271,109.0	29.0	309,701.5	33.1	302,150.0	32.3	51,920.0	5.6							935,039.5	
1933		270,972.0	27.1	295,531.0	29.6	370,943.0	37.1	61,256.5	6.1							998,702.5	
1934		200,136.0	26.5	360,394.5	32.0	413,837.5	37.8	30,335.0	2.8							1,004,703.0	

The same tendency can be verified in the import of raw cotton. American cotton became predominant in the total import from 1932 when the import of American cotton reached 63.9 per cent. of the total imports against 22.7 per cent. of Indian cotton. Even after considering that prices of American cotton in 1932 were very low, and that the import of Indian cotton was discouraged early in 1933, it appears that Japanese spinners are gradually tending to buy more cotton from America than from British India.

IMPORTS OF RAW COTTON

		(in thousand bales)						
		British	American	Chinese	Egyptian	Total		
		Indian				(incl. others)		
1930		1,526.6	1,093.5	452.5	33.7	3,153.1		
1931		1,519.2	1,435.7	380.1	53.3	3,574.7		
1932		832.8	2,339.2	337.7	59.3	3,660.7		
		(22.7%)	(63.9%)	(1.2%)	(1.6%)			
1933		1,279.1	1,949.2	303.7	52.6	3,738.7		
		(36.2%)	(52.1%)	(8.1%)	(1.4%)			
1932 Jan.-May		447.0	1,551.7	105.2	36.7	2,192.4		
1933		817.4	874.6	104.4	24.3	1,913.3		
1934		804.5	853.9	111.2	37.9	1,922.3		

Spinners were able to obtain a rather favourable profit margin throughout the first half of 1934, as quotations of cotton yarn were well maintained.

PROFIT MARGIN ON 20's COTTON YARN PER BALE AT THE END OF MONTH (in yen)

	Jan.	Feb.	Mar.	Apr.	May	June
Raw Cotton (A)	185	171	169	156	163	178
Manufacturing Cost (B)	20	20	20	20	20	20
(A) + (B), (C)	185	191	188	176	183	198
Spot Price (D)	210	210	210	214	230	232
Profit Margin (D-C)	25	19	22	38	47	32

(A) Raw Cotton 350 kin : 20% Strict Middling, 40% Akola, 40% Hinjanganhat.

Business results in the first half of ten available companies were as follows :—

		Paid-up Capital yen	Profit yen	Dividend yen	Yearly Ratio to Paid-up Cap. Reserves %	Cap. Reserves yen
1933 I	..	165,250,000	14,314,000	9,466,000	11.5	1,131,000
II	..	167,175,000	15,015,000	9,702,000	11.6	5,251,000
1934 I	..	166,134,000	18,275,000	12,528,000	15.1	5,664,000

In spite of the enormous profit, almost all companies rejected the temptation to raise their dividend, which resulted necessarily in large profits being left in business.

Japanese cotton mills have succeeded not only in the field of cotton, but also in their investments in the rayon and woollen industry. Many representative rayon companies are working with the support of the large cotton mills, which in turn find their competitive power increased through these investments.

As regards the future outlook, the development of the export trade and the enlargement of production plant are the most important problems.

Considering the yarn used in exported hosiery and other cotton manufactures, 60 per cent. of the total production of cotton yarn is dependent on foreign markets.

Japanese cotton goods, however cheap, may find their future expansion checked by the steadily increasing restriction of imports in the world's market. The development of the conversations now being carried on between Dutch East India and Japan is anxiously watched.

Whilst Japanese spinners subject themselves to strict control through the Japan Cotton Spinners' Association, which has been enforcing a restriction on production, no effort has been made to limit additions to plant. Installations are expected to reach ten million spindles at the end of the first half of 1936. Over-production is consequently feared, which might stop the two-shift system, which is one of the special advantages of Japanese cotton industry.

(Extracted from the Monthly Circular of the Mitsubishi Economic Research Bureau.)

SPAIN.

The situation of the cotton industry in Spain during the last quarter shows hardly any variation, when compared with that of the previous periods already reviewed. It is clear that the general world crisis is reflected in Spanish activities, but it is certain that here it is not manifested, as in other countries, in the form of wild convulsions in the abnormal swinging of the pendulum. In order to describe the interior position of our industry in a way which will be easily understood, we may say that in this country the crisis reveals itself in a hardly perceptible decline, which is continuous, but without steep falls; the effect is that this movement of transition gives an idea of uniformity, when really it is leading us to an aggravation which defies all human forethought.

In order not to repeat the figures which reflect the increase in the

level of occupation, variations in the wages and other points which are symptomatic of our position, are little different from those given in previous reports, and with the object of illustrating to our colleagues the cyclone through which the Spanish cotton industry is passing, we cannot do better than expound the statistics recently published by our organization, and which reflect the imports of cotton during the last few years through the port of Barcelona for consumption, for the most part, by the cotton industry established in the Catalan region.

We must point out, for the better comprehension of our readers, that in Cataluña is concentrated the most important section of the Spanish cotton industry, as is shown by the following table of the working machinery which composes the total national cotton industry, with an indication of the machinery which belongs to Cataluña:—

SPINNING						All Spain	Belonging to Cataluña
Ring Spindles .. .. .	..	..	..	..	..	1,639,408	1,554,320
Self-acting „ .. .. .	..	..	..	..	..	431,127	365,870
Twisting „ .. .. .	..	..	..	..	..	280,700	257,657

WEAVING							
Looms .. .. .	..	..	..	..	..	81,035	66,939

The raw cotton imports to which we referred above, from the sources and for the years which are given, were as follows:—

	1933-34	1932-33	1931-32	1930-31
	bales	bales	bales	bales
American	268,370	304,178	287,832	238,599
Egyptian	50,210	40,344	47,687	46,386
Indian	63,586	50,132	39,143	76,190
Argentine	6,634	6,509	8,814	18,086
National	4,303*	5,675	6,804	17,707
Total	<u>393,103</u>	<u>406,838</u>	<u>390,280</u>	<u>396,968</u>

* Includes 2,368 bales of cotton from other sources.

A clearer analysis of the imports and its alternatives is given us by the following table comparing the cotton imported each month:—

	American	Egyptian	Indian	Argentine	National	Total
August	12,607	2,853	3,071	425	884	19,840
September	21,420	2,630	5,089	57	292	29,488
October	19,537	3,057	3,842	60	300	26,796
November	47,218	4,718	6,317	48	—	58,301
December	25,810	6,140	3,328	106	100	35,484
January	30,681	9,215	4,978	375	402	45,651
February	20,827	4,468	5,340	—	377	31,012
March	34,985	6,051	11,497	355	280	53,168
April	18,730	2,981	8,128	110	280	30,229
May	12,042	3,733	4,238	925	388	21,326
June	12,104	2,314	5,006	2,555	760	22,739
July	12,409	2,050	2,752	1,618	240	19,069
Total, 12 months	268,370	50,210	63,586	6,634	4,303	393,103

What has been said previously relating to imports is more than sufficient to give the reader a good idea of our cotton activities, for manufactures have moved in relation to raw materials, inasmuch as the part which should be considered as stocks available on the market varies little from one year to another, and in no way influences the normal course of sales.

(Asociacion de Fabricantes de Hilados y Tejidos de Algodon.)

SWEDEN.

Conditions in the Swedish cotton industry have gradually grown a little better, justifying a somewhat brighter outlook at least on the nearest future.

Due to the present monetary position, the Swedish cotton industry has for a time suffered a little less from foreign competition than previously, thus enabling the factories to run more continuously than before. Certain signs, however, seem to indicate that the foreign competition is in a very marked degree able to adapt itself to these changed conditions.

The collective agreement between the employers and the textile workers' organizations, which is due to expire on December 31 this year, was by mutual consent prolonged for one year further, thus relieving the industry from the uncertainty following all wage negotiations.

Prices of yarn, as well as of cloth, have grown a little firmer, owing to increasing prices of raw materials, but profits are still very unsatisfactory.

(Svenska Bomullsfabriksföreningen.)

SWITZERLAND.

During the past six months the sale of cotton yarns has experienced, on two occasions, a short-lived activity from Germany. This activity has diminished on account of technical difficulties in payment on the part of the consuming country, at a time when both producer and buyer believed that a regular business was assured by means of an agreement arrived at between the two countries. As the increased demand from the German cotton weaving mills is the result of difficult trade conditions between Germany and other countries, the demand from Switzerland may only be of a temporary nature. At the same time, however, it has recently brought relief to the home markets.

The weaving section has suffered continuously from lack of orders, so much so that the fine weaving section only works up to 60 per cent. of full capacity. The coarse section, apart from the coloured weaving section, which works under special conditions, has hardly been able to operate 75 per cent. of full time on the average.

The home market is so overcrowded with goods that it is hoped to be able to introduce a scheme for the limitation of production.

Wages on the whole have experienced no change; however, where in isolated cases revisions have been effected they were carried out throughout in the sense of a reduction, within the limits of small percentage.

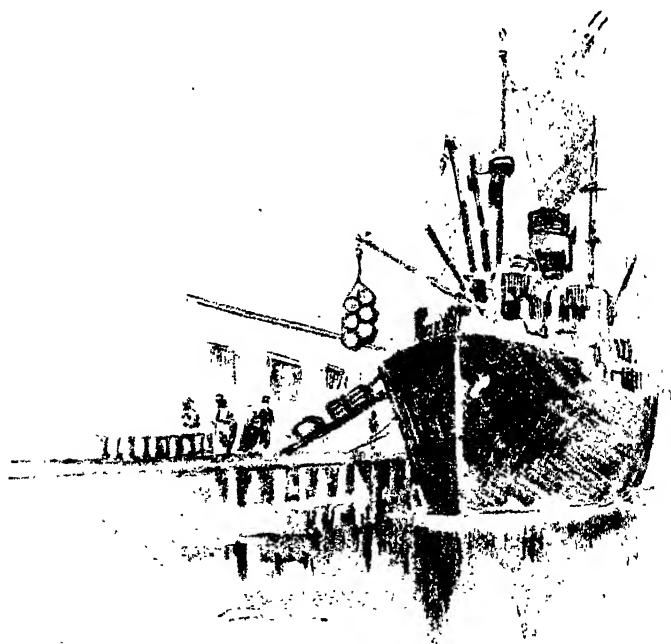
The following is the original report in German:—

Der Garnabsatz der Baumwollspinnerei erfuhr in den vergangenen sechs Monaten von Deutschland aus zweimal kurzlebige Anregung, die zufolge zahlungstechnischer Schwierigkeiten auf Seiten des Abnehmerstaates jedesmal in dem Moment abgebremst wurde, wenn Produzent und Käufer einen geregelten Handelsverkehr durch zwischenstaatliche Vereinbarung gesichert glaubten. Da die vermehrte Eindeckung der deutschen Baumwollweberei bei schweizerischen Spinnern eine Folgeerscheinung erschwerten Handelsverkehrs mit andern Ländern ist, dürfte ihr nur vorübergehender Charakter zukommen; immerhin hat sie in der kurzen Zeit eine leichte Entlastung des Inlandmarktes gebracht.

Die Weberei litt dauernd an Auftragsmangel, sodass die Kapazität der feinen Sektion kaum mehr zu 60, diejenige der groben, von der unter besondern Voraussetzungen arbeitenden Buntweberei abgesehen, kaum zu 75 % durchschnittlich ausgenützt werden konnte. Der inländische Tüchermarkt ist derart mit Ware überfüllt, dass nach einer allgemein verbindlichen Produktions-einschränkung gesucht wird.

Die Löhne haben generell keine Veränderung erfahren, wo in Einzelfällen Revisionen durchgeführt wurden, geschahen sie durchwegs im Sinne einer Senkung im Rahmen einiger weniger Prozente.

(Schweizerischer Spinner-Zwirner und Weberverein.)



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ANGLO-EGYPTIAN SUDAN.

SUDAN FISCAL COTTON CROP REPORT.

The cotton progress report for the month of June, 1934, issued by the Director of Agriculture and Forests (Khartoum) contains the final report of the Sudan cotton crop for the 1933-34 season. The figures issued, in units of feddans and cantars, compared with 1932-33, show as follows:—

SUDAN FINAL COTTON PROGRESS REPORT

Season 1933-34

	1933-34		1932-33	
	Area (Feddans)	(rop (Kantars)	Area (Feddans)	(rop (Kantars)
Sakel				
Gezira (Syndicate)	.. 155,936	409,960	175,792	336,322
(Kassala Co.)	.. 18,991	—	19,183	39,154
Tokar .. ..	.. 37,700	22,620	40,000	95,513
Kassala (Gash Delta)	.. 31,146	61,365	19,147	27,120
Others .. ..	.. 5,447	17,406	3,956	11,057
American:				
Irrigated .. ..	.. 12,300	53,584	11,635	39,569
Raingrown .. ..	.. 59,414	86,800	43,225	33,565
Total (Amer.) .. ..	.. 71,714	140,384	54,860	
Grand Total .. ..	.. 320,934	651,735	312,938	582,300

Comparisons for the total Sudan crop, in English units of acres and bales (478 lbs.) from 1929 to the present crop, show as follows:—

COTTON IN THE SUDAN

Area ; Production ; Yield per Acre

Year	Area (Acres)	Production (678 lb. bales)	Yield (lbs. per acre)
1929-30	369,296	139,199	180
1930-31	387,227	106,471	131
1931-32	335,858	205,991	293
1932-33	324,830	120,664	186
1933-34	333,129	134,975	194

ARGENTINA.

The 1933-34 cotton crop is estimated by cotton merchants at about 35,000 metric tons (about 160,000 equivalent 500-lb bales), a slight increase compared with the 33,000 tons produced in 1932-33. The area planted is estimated at about 140,000 to 150,000 hectares (or 247 acres), which is slightly larger than last season's acreage but the yield per acre is said to be somewhat lower. (U S D C)

The International Institute of Agriculture, Rome, states that the area sown to cotton in the past season in Argentina is estimated at 480,000 acres against 342,000 in 1932-33 and 281,500 on the average of the five years ending 1931-32. Percentages 140.3 and 170.5. The largest increase was in the Chaco, amounting to 430,000 acres, followed at a long distance by the province of Corrientes with 37,000 acres, Santiago del Estero with 11,100 acres and the National Territory of Formosa with 1,500 acres.

Weather in July was generally favourable to ripening and opening of the bolls, save in some districts of the Chaco, where low temperatures checked complete maturation. Yields vary from 321 lbs per acre to 482 lbs in the coastal zone of the Parana and the Paraguay, in the interior of the Chaco they attain about 320 lbs and in the western zone vary from 130 lbs to 200 lbs.

Market prices were stated to be satisfactory.

AUSTRALIA.

The production of cotton during the 1934 season has broken all records. The record ginning in Queensland previously was 11,957 bales turned out during the 1925 season, when cotton prices were very high.

It is estimated that the total production this season will be approximately 17,000 bales. Its total value, together with by-products, will probably not be short of £750,000. This result could easily have reached the million figure if a few more hundreds of acres had been put under cotton in suitable districts. At present there are approximately 66,000 acres planted with cotton, and the number of pickers at present employed is between 3,000 and 4,000, in addition to which 250 men are employed at the oil mill and the ginneries.

A proof of the good cotton crop is the fact that for the first time for eleven years the Gladstone ginnery has been operating and for the first time on record the Whimstones (Brisbane) and Glenmore ginneries have been working double shifts.

The harvesting of the cotton crop has continued through the month of June, with only a slight interruption during the first week, when good rains were experienced in the Central district. Since then dry, sunshiny days have been the rule, culminating in the middle of the month with frosts in some areas. The frosts, which were heavy enough to open the bolls, were welcomed in all districts, for the harvesting of the crops will be hastened, thus permitting farmers to start the preparation of the seed-beds for the new crop.

This season 3,657 growers sent in cotton to the Board. The season was a peculiar one, rains kept the crop growing, with every

prolonged a very much heavier crop than had been anticipated. An intensely hot spell was experienced, with the result that not only did the plants shed their entire crop on squares but the bolls which were just forming, were also completely destroyed. This happened in a period of from three to four weeks. Had this vicissitude not occurred the total value of the entire crop would have been raised to £1,000,000.

Favourable results are being obtained in some districts, and cotton has been sown for the first time this season. This seems to indicate that in the drier sections of the north more cotton may do very well in normal weather conditions.

The Department of Agriculture and Stock is still investigating areas of good cotton land existing than was originally thought, and it has been shown that many thousands of acres of land well suited to the production of cotton of good quality exist in the State, which could produce all the requirements of Australian cotton growers if the necessary mills and plant were established.

INCREASED BOUNTY PROPOSED ON COTTON

A Bill introduced into the Federal Parliament and expected to pass soon, provides an increased bounty on cotton grown in Australia, according to a radio gram from Sydney. The Bill substitutes a bounty of 10 per cent to the present bounty on seed cotton, the amount being in line with the increase in Liverpool. On the basis of the present Liverpool price, the bounty for the first year will be approximately 100 per pound of lint compared with the present equivalent to about 2 pence per pound of lint. (The Sydney Morning Herald, 12/12/34)

BRAZIL.

State	Actual Cotton Production 1934	New Cotton Production 1935	New Cotton Production in bales 1935
Sao Paulo	177,500	170,000	196
Paraguay	150,000	217,500	142
Rio Grande do Norte	100,000	17,500	175
Pernambuco	67,000	15,000	224
Alagoas	66,700	8,000	120
Minas Geraes	50,000	11,000	216
Sergipe	50,000	8,150	124
Mato Grosso	33,430	10,711	314
Goiás	30,000	11,000	67
Bahia	30,000	5,000	167
Piauí	25,000	2,400	96
Rio de Janeiro	24,600	2,200	81
Praia	17,000	5,200	129
Pernambuco	3,100	400	129
Total	525,050	147,436	179

Average for Brazil

The Brazilian Government is now estimating that the production of cotton in the Northern States for the 1934-35 cotton season will be around 753,000 bales of 478 lbs, according to information received. This represents an increase of 61 per cent over the estimated production in these states in 1933-34 of 468,000 bales, and is 88 per cent larger than the average during the five

COTTON GROWING

year ended 1932-33, which amounted to about 400,000 bales. The crop in the Northern States is planted between January and June and harvested between August and January. The present estimate, therefore, is a preliminary estimate, and according to Mr. Norris the members of the cotton trade in Brazil feel that the Government estimate is too high. The second estimate of production in the Northern States is expected to be released around the end of November.

At the time the first estimate of the 1934-35 production in the Northern States was released, the Brazilian Government also released the second estimate of the 1933-34 crop in the States of South Brazil. The cotton crop in these states is planted in September, October and November, and harvested in the following May to July. The second estimate of the crop which has just been harvested in the Southern States placed the crop in those states at 501,000 bales, an increase of 125 per cent. over the year before, and represented an even larger increase compared with the average. This, combined with the estimated production in the 1933-34 season in the Northern States of 468,000 bales, gives a total production in Brazil for the 1933-34 season of 969,000 bales. This represents an increase of 116 per cent. over the small crop of 448,000 bales produced in the 1932-33 cotton season, and an increase of 80 per cent. as compared with the average for the five years ended 1932-33. It is 22 per cent. larger than the previous record crop of 793,000 bales produced in 1924-25.

The first estimate of the 1934-35 cotton crop in the Southern States will not be available for several months, but should the crop be as large as that which has just been harvested, the total crop will exceed 1,000,000 bales, assuming the present estimate for the Northern States is approximately correct.

The increase in the 1933-34 crop in South Brazil was due in part to the fact that cotton prices were high relative to coffee prices, the principal competing crop. A part of the increase in the Northern States has been attributed to the fact that in some of the large cotton-growing states free seed was distributed to cotton farmers, and also to the fact that weather conditions at planting time, as well as throughout the growing season, were unusually favourable.

According to a statement received from the Director of Agriculture, Brazil, the 1934 cotton crop is estimated at 1,201,830 bales of 500 lbs. each, compared with 651,366 bales (500-lb. bales) in 1933. It is stated that the cotton for export is inspected by the Federal Government and that it must measure at least 22 mm. in length, and its purity and package must conform to Government regulations.

BELGIAN CONGO.

Information received by the United States Department of Commerce states that the area planted to cotton by the natives is gradually increasing. In 1932 the area was 149,000 hectares (hectare equals 2.471 acres), compared with 137,000 hectares in 1931. Production of lint cotton in 1932 reached 8,161 metric tons, valued at 38,601,000 francs, against 14,594 tons in 1931, valued at 105,080,000 francs. Production in 1933 amounted to 17,000 tons, while local officials state that the 1934 crop may reach 10,000 tons.

With a view to favouring cotton production, the Government of the Congo Colony has decided to advance the necessary funds to cotton companies for the purchase of cotton from the natives.

Exports of cotton amounted to 12,123 tons in 1932, against 12,540 tons in 1931. The total cotton production has so far been shipped to Belgium, with the exception of about 1,200 tons consumed by a local mill. Half of the cotton is consumed in Belgium and the other half is said to be re-exported to Germany, France, the Netherlands, and other countries.

CHINA.

Chinese cotton production has maintained the upward trend this season which was unbroken during the last three years. The 1934-35 cotton crop of China is estimated by the Chinese Cotton Statistical Association at about 2,928,000 bales from an area of 6,747,000 acres, according to cabled advices to the U.S. Department of Commerce from Shanghai. The final estimate for last year's crop is 2,726,000 bales from an area of 6,142,000 acres. This season's crop is 7 per cent. above the large 1933-34 crop and 31 per cent. above the average 1929-30 to 1933-34 production. On the basis of the estimated acreage and production the indicated yield this year is 207.5 lbs. per acre compared with 212.2 lbs last year.

China has recently raised its import duty on raw cotton (along with increases on other commodities) from 3.5 gold custom units per 100 kilograms to 5.0. At the present rate of exchange the new duty is equivalent to approximately 1.50 cents per pound and the old rate was about 1.05 cents per pound. The increase in the duty on cotton was apparently designed to increase the customs revenue and the price of Chinese cotton.

PLANS FOR ASSISTING COTTON-GROWING IN CHINA.

With a view to facilitating rehabilitation of the cotton industry, it is learned that the Cotton Control Committee of the National Economic Council, with the assistance of several leading Chinese banks—including the Bank of China, the Bank of Communications, the Kinchong Banking Corporation, the Chekiang Industrial Bank and the Shanghai Commercial and Savings Bank—is organizing a Cotton Production and Sales Co-operative Society, which will have branches in various cotton-producing centres throughout the country.

The aim of the new Society, it is learnt, will be to extend loans to cotton-growers. As an experiment, operations will be started in the provinces of Shensi, Shantung, and Honan.

Funds will be allotted to facilitate the various processes of cotton production in the following proportions: Purchase of seed and fertilizers, \$50,000; ginning and packing, \$20,000; transportation and sale, \$200,000.

Loans for the purchase of seeds and fertilizers will be redeemed by paying the Co-operative Society in cotton harvested each season. Loans for ginning and packing are to be redeemed in five years. Loans for transportation and sales are to be redeemed after the products are sold.

If the experiment in Shensi, Shantung, and Honan proves successful, the plan will be introduced in other parts of the country

ECUADOR.

The 1933-34 cotton crop is placed at about 2,700,000 lbs by local authorities. The 1934-35 crop is expected to be about 1,000,000 lbs larger, but production will still be below domestic requirements. Imports in 1934 may exceed the 2,045,000 lbs received from abroad during 1933, according to the local trade. During the first half of 1934, imports amounted to 444,000 lbs, all from the United States, according to official figures.

FRENCH EQUATORIAL AFRICA.

Cotton production in French Equatorial Africa in 1933 is placed at 2,453 metric tons of 2,205 lbs each compared with 1,421 tons in 1932 and 887 tons in 1931, according to the Colonial Cotton Association. The 1933-34 crop is estimated at about 15,000 metric tons of seed cotton, which will yield about 4,000 tons of lint cotton for export. Production in French West Africa, including Togoland, amounted to 2,578 tons in 1933 against 2,659 tons in 1932 and 4,387 tons in 1931. In Algeria, cotton production has practically ceased. In Morocco production is very small, estimated at 5 tons in 1933, and 17 tons in 1932. In the French colonies of the Near East production is limited. In the province of Lattaquieh the area is estimated at 2,600 hectares (about 6,425 acres) in 1932, and the production amounted to 150 tons, consisting of 126 tons of the Lone Star variety and 24 tons of Sakellarides. The acreage in 1934 is estimated at 1,700 hectares (about 4,200 acres). In the Alexandrette district 230 hectares were reported planted in 1934.

(U S D C)

GREECE.

The acreage planted to the 1934 crop is said to be larger than in 1933, according to local authorities. It has been reported that greater care has been taken in selecting seed for planting. Some of the new varieties of imported cotton-seed are said to produce better results with respect to quality and quantity. The Greek Cotton Institute estimated the crop at 20,000 metric tons of seed cotton which is equivalent to about 40,000 bales of 500 lbs.

(U S D C)

HAITI.

Cotton exports for the nine months October to June amounted to 4,840 metric tons, representing a decrease of 800 tons as compared with the exports for the corresponding nine months of 1932-33. In order to improve the quality of cotton the Government of Haiti voted a credit of \$4,000 to promote the production of selected long-staple varieties. A bonus of \$5 per hectare (2.47 acres) will be given each grower who agrees to plant selected long-staple cotton under supervision of qualified agents.

(U S D C)

MANCHURIA.

Early reports from Manchuria indicated that the cotton acreage of 1934-35 would be about double that of 1933 and that the crop might equal 80,000 bales. However late reports state that unfavourable weather in June and July had resulted in some of the acreage planted to cotton having been put into other crops. The late indications are, therefore, that the new crop may not be much larger than that of 1933-34, which has been estimated at from 40,000 to 50,000 bales. Another report states that the acreage is estimated at 198,000 acres as compared with 131,000 acres last year.

MEXICO.

According to the official forecast by the Mexican Government the 1934-35 cotton crop in Mexico is expected to total 200,000 bales. This would compare with a preliminary estimate of production in 1933-34 of 228,000 bales, and an average for the five years, 1928-29 to 1932-33, of 203,000 bales. The estimated acreage was placed at 402,000 acres, a decrease of 5 per cent compared with the 424,000 acres planted in 1933, and compares with an average of 379,000 acres for the five years ended 1932-33.

Some of the preliminary reports received earlier indicated that acreage in Mexico was being increased this season, and, according to the official estimate, the acreage in a number of the cotton-producing states did increase. The principal decrease in acreage occurred in the states of Coahuila and Durango. In these two states combined the acreage dropped 18 per cent this year as compared with last, while in all other states combined there was an increase of 13 per cent.

The indicated yield per acre for the 1934-35 Mexican crop is 238 lbs compared with 257 lbs in 1933-34, and an average for the last five years of 258 lbs. In the states of Coahuila and Durango, two of the important producing states in Mexico, the indicated yield per acre is 311 lbs and 310 lbs, respectively. This compares with an average for the five years ended 1932-33 of 304 lbs and 272 lbs, respectively.

A later report issued by the U.S. Department of Commerce states that the cotton crop of 1934 will probably not exceed 189,000 bales, according to local authorities. The crop prospects were reduced by unfavourable weather and by insect damage during July and August. The 1933 crop amounted to 215,000 bales. Cotton consumption from November, 1932, to October, 1933, amounted to 181,000 bales.

PARAGUAY.

Cotton exports in 1933 amounted to 2,708 metric tons, or about 12,000 equivalent 500-lb bales. The crop of 1933-34 is estimated to be somewhat larger than that of the previous year.

(U.S.D.C.)

PERU.

The cotton crop of 1933-34 is now estimated by local merchants at about 265,000 bales of 500 lbs., an increase of 15,000 bales over the 1932-33 crop. It is reported that 75 per cent. of the crop has been sold. The grade and staple are reported to be inferior to those of last season. (U. S. D. C.)

PORTUGUESE AFRICA.

The 1934 cotton crop of Angola may exceed that of 1933. In the Malange district the crop is estimated at 1,500 tons of seed cotton, against 1,085 tons in 1933, according to reports received by the French Colonial Cotton Association. In the districts of Chemba and Sena, Portuguese East Africa, the 1934 crop is estimated at 1,700 tons of seed cotton, against 1,900 tons in 1933, and in the Mozambique and Cabo Delgado districts the crop is estimated at 3,000 to 3,600 tons of seed cotton. (U. S. D. C.)

The Portuguese Government paid 2,168,507 paper escudos (approximately \$100,000) to exporters of cotton from Angola (Portuguese West Africa) between June 27, 1933, and August 14, 1934. The bounty paid per pound of cotton varies according to the price quotations at Lisbon and New York, but in recent months it has amounted to 2.335 escudos per kilogram (approximately 4.88 cents per pound). This was a substantial bounty in comparison with prevailing cotton prices.

Portugal began putting an export bounty on colonial cotton in 1932 in accordance with a recommendation of a Government committee appointed from Lisbon in 1931 to examine the economic situation in the colonies. The bounty paid is equal to the difference between the fixed price of 8 escudos per kilogram and the average market price for each month on the Lisbon exchange, or the average New York price of good middling cotton during the month of shipment. Cotton has been grown by natives in Angola for perhaps a century or more. In 1870, as a consequence of the American Civil War, exports from Angola reached about 4,600 bales of 478 lbs., but declined thereafter to 457 bales in 1903. Exports increased with increasing prices after 1917 to a recent maximum of 4,239 bales in 1933.

During the five years 1923-24 to 1927-28 the average yield per acre was 120 lbs. of lint. However, the crops planted in 1927, 1928 and 1929 averaged only 80, 80 and 40 lbs. respectively. These low yields give some indication of the weak competitive position of Angola were it not for the export bounty.

TURKEY.

The Chamber of Commerce of Adana, the most important province for cotton cultivation, published on August 30 the second forecast of production, which shows a decrease of 11.6 per cent.

on the first for the Cukurova district, where the crop suffered from the heat. Compared with the 1933-34 crop, production will be about 130 per cent. larger this year.

The following is a comparative table of the various kinds of cotton cultivated:—

				Cotton lint (bales of 478 lbs.)		
				1934-35	1933-34	Difference
Yerli (native)	...	...	...	33,106	18,881	14,225
Jané Express	..	...	...	19,238	4,217	15,021
Cleveland	...	...	...	311	—	311
Total	...	...	...	<u>52,655</u>	<u>23,098</u>	<u>29,557</u>

Cleveland was cultivated this year for the first time in the province of Adana.

The new season shows an increase of 29,518 bales. The increase in Jané Express is 355 per cent. or over 14,090 bales; that of native cotton (Yerli) is smaller. (I. I. A.)

UGANDA.

According to the most recent report issued by the Department of Agriculture, cotton production in 1933-34 is estimated at 228,100 bales of 478 lbs., as compared with 243,000 in 1932-33 and 145,260 the average of the preceding five seasons. Percentages: 94.0 and 157.0.

The estimated area planted to the end of July, 1934, in the Buganda, Eastern and Northern Provinces on the whole was 582,000 acres as against 522,000 to the end of July, 1933. Percentage: 111.6.

In most districts dry weather conditions were experienced during the month of July. From all districts, however, reports indicated that a satisfactory acreage had been planted; germination, except in South Bugishu, was good everywhere, and the condition of the crop was normal. (I. I. A.)

UNION OF SOUTH AFRICA.

The production of lint in the Union and Swaziland is now estimated at 2,385 bales, an increase of 63 per cent. on that of 1932-33, but 70 per cent. below the average of the five years ending 1931-32. (I. I. A.)

U.S.S.R.

Prospects for the new cotton crop in Soviet Russia are rather unfavourable, according to a recent report. The cold and rainy spring in Middle Asia hampered the growth of the plants. Despite the resulting necessity for careful cultivation and irrigation, complaints of slipshod methods continue, so that there is considerable

reason to believe that yields will be disappointing. Reports indicate that first and second cultivation was long drawn out and that little more than half of the cotton area was worked up for the third time in Usbekistan and Turkmenia by July 20, although the third cultivation ought to have been completed by August 5. As a result, weeds have become a menace, according to reports. Irrigation is also said to be slow, with the pace reported below that of last year. The above developments are attributed to the poor organization of labour in the cotton-growing regions. At the same time, in view of the delayed growth, a share of the cotton crop may not mature if autumn frosts are early this year.

The situation is still less favourable in the so-called "new cotton regions," where the stand is said to be thin. This is attributed by local organs to drought, but other reports indicate that bad farming practices are the real cause. Thus, for example, it is stated that only 20 per cent. of the total cotton acreage in the new regions has received the necessary three cultivations in proper time. The dates for completing these cultivations are respectively June 1, June 15, and July 1. Conditions in Crimea are very unsatisfactory, and that region does not expect to harvest more than 220 lbs. of unginned cotton per hectare (equivalent to around 30 lbs. of lint per acre) this year, which is a very low yield even for a new region.

The acreage planted in Russia has not been actually reported, but reports indicate that the plan for the 1934 crop was fully executed. This would mean that at least 4,843,000 acres were planted, which was 5 per cent less than the plan for 1933, and 4 per cent. less than the 5,066,000 acres reported to have been planted in 1933. The planned production in 1934 is 13.4 per cent. less than the plan for 1933, and about 9 per cent. less than the reported production. It may be, therefore, that despite the unfavourable prospects, the 1934 Russian crop may equal the plan, although we are not now in a position to say. The plan calls for deliveries of 1,164,700 metric tons of unginned cotton, which is equivalent to 1,665,000 bales to 1,770,000 bales of 478 lbs of ginned cotton, depending upon the ratio of lint to seed. (U. S. D. C.)

From another source we learn, however, that the cotton harvest in the Soviet Union promises to be a good one this year. Sowing has been carried out with greater efficiency than in previous years. Special attention has been paid to long-fibred types of American and Egyptian cotton. An area of 380,000 hectares (one hectare equals 2.5 acres) has been sown to American varieties (as against 102,000 hectares last year) and 104,000 hectares has been sown to Egyptian cotton (which is 35 per cent more than last year). The aggregate area under American and Egyptian cotton is about a quarter of the total area sown to cotton this year.

VENEZUELA.

Cotton production for 1933 is estimated at about 4,600 metric tons, according to the Caracas Chamber of Commerce. The average annual crop is estimated at about 4,000 tons. Practically the whole crop is consumed in the country. Imports and exports of raw cotton are negligible.

Cotton Production in the Anglo-Egyptian Sudan.

MR. P. K. NORRIS, Senior Marketing Specialist of the United States Department of Agriculture, has recently visited the Anglo-Egyptian Sudan, and written a very interesting survey of the cotton-growing potentialities of that country. The report is issued in mimeographed form by the U.S. Department of Agriculture (F.S.62), and is entitled "Cotton Production in the Anglo-Egyptian Sudan." The following is extracted from the report:—

Cotton is said to be indigenous to the Sudan, but it is only since the World War that production has attracted world attention. As early as 1911, the Department of Agriculture and Forests of the Sudan Government estimated a crop of 7,304 bales (478 lbs.) from an area of 30,052 acres. This was a yield of about 158 lbs. per

TABLE I.—AREA, YIELD AND PRODUCTION OF ALL COTTON AREAS OF THE ANGLO-EGYPTIAN SUDAN, 1911-12 to 1932-33

Year						Area Acres	Yield per Acre Lbs	Production Bales of 478 lbs.
1911-12	..	..	..	..	..	30,852	115	7,394
1912-13	..	..	..	..	..	23,600	166	8,186
1913-14	..	..	..	..	..	12,218	192	4,911
1914-15	..	..	..	..	..	58,035	137	16,690
1915-16	..	..	..	..	..	37,417	138	10,817
1916-17	..	..	..	..	..	77,227	115	18,600
1917-18	..	..	..	..	..	37,943	103	8,195
1918-19	..	..	..	..	..	38,362	80	6,425
1919-20	..	..	..	..	..	44,407	170	15,788
1920-21	..	..	..	..	..	44,858	221	20,734
1921-22	..	..	..	..	..	65,887	120	16,532
1922-23	..	..	..	..	..	43,325	224	20,299
1923-24	..	..	..	..	..	81,805	189	32,278
1924-25	..	..	..	..	..	80,009	166	30,908
1925-26	..	..	..	..	..	149,680	317	99,240
1926-27	..	..	..	..	..	209,198	297	129,940
1927-28	..	..	..	..	..	237,687	220	109,439
1928-29	..	..	..	..	..	283,877	239	141,722
1929-30	..	..	..	..	..	369,236	180	139,215
1930-31	..	..	..	..	..	387,213	130	105,714
1931-32	..	..	..	..	..	335,858	293	205,982
1932-33	..	..	..	..	..	324,831	178	120,665

Source: The Annual Reports of the Secretary for Economic Development and the Annual Reports of the Department of Agriculture and Forests—Sudan Government.

acre. As indicated in Table I, the cotton acreage increased steadily, and in 1924-25 was 80,009 acres. The production in that year was 30,908 bales. With the completion of a dam in the Gezira in 1924, the cotton acreage in 1925-26 gained almost 60,000 acres. The acreage continued to expand, and in 1930-31 reached 387,000

acre-. The largest production recorded was in the 1931-32 season, when the production reached 206,000 bales. The yields have fluctuated widely, ranging from 130 lbs. per acre in 1930-31 to 317 lbs. in 1925-26.

The present crop is grown in six areas or sections of the country under a variety of artificial and natural moisture conditions. Fully half the total production is made possible by gravity-flow system of irrigation. A small portion of the crop is grown by pumping water for irrigation purposes. Natural flooding of river basins, called flood irrigation, accounts for 20 per cent. of the crop. Rain-grown cotton is relatively unimportant.

The Gezira, leading producing district, receives its water from a dam on the Blue Nile. Plantations in the Nile Valley secure water by pumping. The Tokar and Kassala areas are flood-water districts. Districts in the Nuba mountains and areas in the southern provinces are rain-grown districts. The relative importance of these areas is shown by the following production statistics reported by the Department of Agriculture and Forests for the Sudan Government for the season 1932-33; The Gezira, 77,804 bales; Tokar and Kassala, 25,412; Nile Valley, 9,611; Nuba Mountains and Southern Provinces, 7,838; total, 120,665.

In the Gezira, Tokar and Kassala districts, Egyptian varieties of cotton are grown. Only American upland varieties are grown in the rainfall areas. On the plantations in the Nile Valley, using a pumping system of irrigation, American upland varieties are also grown.

THE GEZIRA.

The Gezira, a triangular plain lying between the Blue and White Nile, is the most important cotton-growing area of the Anglo-Egyptian Sudan. It consists of approximately 5,000,000 acres, of which it is estimated 3,000,000 acres could be brought under irrigation if water were available. The cotton acreage has not exceeded 205,000 acres. The potential cotton production has been estimated at from 1,000,000 to 5,000,000 bales, but the actual crop has never exceeded 167,000 bales, and the average is far below this figure.

The possibilities of the Gezira as a cotton-producing area were pointed out to Lord Kitchener, who at the time was Governor-General of the Sudan. He was quick to see the opportunities of the country if irrigation were developed, but, like many engineers who have since studied the project, he overlooked many of the underlying agricultural problems which developed later. As early as 1912 cotton was planted on a small scale and was watered by pumping from the Blue Nile. From these early experiments an interest was developed which resulted in the present project. At present approximately 200,000 acres of Egyptian seed cotton are grown annually in the Gezira.

The concession for this production is held by two English firms known as the Sudan Plantation Syndicate and the Kassala Cotton Company. According to the concession, the Government supplies the water and maintains the major irrigation works; the natives supply the labour and the syndicates supervise the planting, cultivation, harvesting, and marketing of the cotton. The net pro-

ceeds are divided approximately 40 per cent. to the Government, 40 per cent. to the grower, and 20 per cent. to the syndicates.

The area is managed somewhat as a large plantation. Authority is centred in a head officer. The growing area is divided into blocks or tracts of about 20,000 acres, each under an English supervisor who has under him two or more English and several native assistants. The irrigation system is so built that each block receives its water supply at fixed intervals throughout the growing season. The headquarters of each block supervisor is connected by telephone with the administration headquarters. The whole scheme is run according to a schedule.

Each block is divided into 30-acre tracts upon which the native grows 10 acres of cotton under a rotation that utilizes about one-third to one-fourth of the land each year. Two-thirds or more of the entire area under irrigation thus lies fallow each year. It is the duty of the supervisor to see that the native farmer plants, waters, cultivates and harvests the crop at the proper time.

Cotton is planted at the end of the short rainy season, which is usually during the first days of August. The Gezira receives about 8 ins. to 12 ins. of rain annually during the summer months, but the crop does not depend upon rainfall. The native farmer tends the crop with a hoe. Apart from ploughing, which is done by the Syndicate, no power machinery is used in growing the Gezira crop. Picking starts in December or January, and is over by the end of April or the beginning of May. The cotton is packed in large bags in the field and transported by camels to the railway, where it is loaded on cars and shipped to gins. Each bag is numbered and a record is made before it starts for the gin. There are only two ginning centres, both owned and operated by the Syndicate. At the gin, the seed cotton is classed into three or four grades, according to a system of standards developed in the country. Each class or grade is ginned separately. The bales are all uniform in size and shape, each weighing about 400 lbs.; they are pressed to a high density, and are never cut for samples. The system of handling and ginning produces a very neat and attractive bale of cotton. The cotton is shipped by rail to Port Sudan.

In 1912-13, the crop of the Gezira, as reported by the Sudan Government, was 634 bales from an area of 633 acres, or a bale 478 lbs. net) per acre. The early yields encouraged the promoters to such an extent that, by 1914-15, 3,075 acres were planted, a crop of 3,247 bales was produced. From 1914-15 to 1920-21 the yield averaged about 320 lbs. per acre.

In 1921-22 a programme of expansion was undertaken that resulted in 1924-25 in an area of more than 20,000 acres. The Sennar Dam, on the Blue Nile, was completed in 1924-25, and the 1925-26 acreage was increased to more than 80,000 acres, with an average yield of 457 lbs. per acre. During the period from 1912 to 1924 the acreage increased, and the yields showed a downward trend, especially in the older cultivated areas. The addition of about 60,000 acres of new land in 1925-26 explains, no doubt, the average yield of 457 lbs. in that year as compared with 211 lbs. in the previous year.

After 1925-26 the area continued to expand very rapidly, until at present it is about 200,000 acres. During the period since the

completion of the dam the yields have undergone a marked decline. The average yield in 1926-27 was 455 lbs., in 1927-28 314 lbs., and in 1930-31 only 128 lbs. per acre. The high yield of 390 lbs. in 1931-32 was attributed to exceptionally small injury from diseases. The significance of the decline in yields was minimized because new lands were being brought under water and the total production thus increased each year. Rising prices also increased the total income and enabled high dividends to be paid the stockholders of the Syndicate.

The reasons for the decline in yield are not fully known, but are largely traceable to the origin of the scheme. After the first enthusiasm had passed it became apparent that a knowledge of the agricultural as well as of the engineering problems was necessary. It was realized that an understanding beyond the construction of irrigation ditches and the application of water was required to produce cotton in the Gezira. To supply this understanding, an experimental station was located in the area. In the short period since its establishment this station has done some remarkable work on the agricultural problems.

The soil of the Gezira plain is a heavy clay ranging from a few to several feet deep with a subsoil that is almost impervious to water. This soil condition makes subsoil drainage impossible, and because of the flat nature of the area surface drainage is limited. Drainage in the Gezira, therefore, depends upon evaporation to a large extent. This method of drainage eliminates any excess water, but salts contained in the irrigation water remain in the soil. The problem resulting from the collection of those salts is a serious one. Large areas are now showing the effects of accumulated salts, and with continuous irrigation the problem will increase in intensity.

Yields have also declined because of diseases that have developed. For several years the area has suffered from black-arm (*Pseudomonas Malvacearum*). To date no real control has been developed. It appears that black-arm is closely associated with excess water during the early growth of the plants. The crop is planted at the end of the short rainy season near August 1, and is watered shortly after planting. It often happens that a heavy rain, sometimes as much as an inch, falls after the first watering. Because of the lack of both subsoil and surface drainage, this excess water may stand on the fields for several days, making a condition favourable to the development of black-arm, especially if there is a drop in temperature. A disease called leaf-curl has done great harm to the crop from time to time, but is kept under control to some extent by a system of rotation in which cotton land is allowed to lie fallow for two or three years.

The Egyptian Sakellarides variety is grown, and is not by nature a heavy yielder, but yields have been far below the early estimates.

At one time labour was a problem in the Gezira, but high prices attracted West Africans, who were willing to work a few years in the Sudan on their pilgrimage to Mecca. These tribesmen did the actual labour so long as the native received enough from his 40 per cent. of the crop to employ them, but since 1929 the native growers have not been able to hire all their labour. It became necessary for

the Arab growers to go to work or to give up their holdings and return to the nomad life of the desert. Many of them chose the latter. Others who remained on the land have received little or nothing for their labour, and are more or less discouraged.

From an administration standpoint, the Gezira has presented many problems for both the Syndicate and the Government. The whole scheme is based on an estimated annual income much above that of the last few years. The yields were estimated at from 300 to 400 lbs. per acre and the prices at from 20 cents to 30 cents per pound, which would have made an income of more than \$50 to \$100 per acre. On this basis the Sudan Government spent something like \$65,000,000 to develop the irrigation works. From an estimated annual return of \$5,000,000 to \$10,000,000 the original capital investment was to be retired in 20 years. For a few years, 1926-27 to 1928-29, this plan was realized, but since 1929-30 both prices and yields have declined, and the Government and Syndicate, as well as the native growers, have been unable to make expenses. In 1928-29 the Government received about \$5,040,000 from its share of the crop, while the 1930-31 crop brought the Government less than \$150,000. Because of the increased yields the 1931-33 income showed a slight increase. The income since 1928-29 has been far below that which was anticipated when the project was financed, and the Syndicate has passed several dividends. The recognition that the original estimated income cannot be realized has resulted in reduced expenditures by both the Government and the Syndicate, and every effort is being made to adjust expenditures to income.

NILE VALLEY.

The first commercial cotton production in the Sudan was in the valley of the Nile north of Khartoum, and was the result of private effort. At the present time, in addition to these private interests, the Government is engaged in cotton-growing at seven or eight stations along the river north of Khartoum. These stations were originally planned to grow grain sorghum in years of a general crop failure. At present they are farmed by natives who follow a rotation including cotton and grain sorghum. The returns from cotton on these stations are not large, but the Government feels that the stations should be maintained to insure a local food supply. The production of cotton has not exceeded 13,000 bales.

The largest privately-owned plantation in this section is located near the town of Zeidab, in the Dongola Province. It grows from five to six thousand acres of cotton annually. This plantation is probably the most successful cotton-growing enterprise in the Sudan.

Under a system of licensing pumps the Government limits the amount of water than can be drawn from the river. As a rule, something like 140 plantations ranging in size from a few acres up to more than 5,000 acres pump water from the river. Some have what are known as "seasonal licences," and are allowed to take water from the river only during a fixed season, whereas others have "all-year licences."

The crop is planted in July and August, and is harvested in the winter. During December and January, while the plant is fruiting,

the temperature often drops several degrees in a short time. This sudden change has an unfavourable effect on the growing crop, and often causes the plants to shed a large part of their squares. The American Upland varieties appear to stand these sudden changes in temperature better than do the Egyptian varieties, and for that reason they are grown to the exclusion of Egyptian in the valley north of Khartoum.

The problem of extending the area under cotton along the Nile Valley is not a simple one. Although there are areas where the soil would grow cotton, the cost of lifting the water from the river (if a pumping licence could be obtained) is high. The operation of a large pump requires the presence of a European, as the natives know nothing of machinery, and care little about learning. Oil or gas is expensive and difficult to obtain. The small native water-wheel is too slow to be of use on large plantations.

Insects are common. Pink boll-worm and plant diseases take a heavy toll, often as much as 25 to 50 per cent. of the crop.

At present prices, there is no inducement for the expansion of cotton acreage in this area, even if the water were available.

Progress in Cotton Growing in U.S.S.R.

ACCORDING to a recent issue of the *Review of the Moscow Narodny Bank Ltd.*, the production of cotton fibre has made rapid progress in the Soviet Union during the last few years. In the period of the operation of the first Five-Year Plan, from 1929 to 1932, the increase was one of 103,000 metric tons (from 215,300 in 1928 to 379,000 tons in 1932). During the second Five-Year Plan it is intended practically to double the production of fibre—the actual increase to be 304,000 tons.

While the success of cotton-growing during the period 1929-1932 depended on the extension of the area under cultivation, the principal aim of the responsible Soviet authorities at the present time is to increase the yield of the soil. In order to increase the fibre crop to 683,200 tons by 1937, the yield of each hectare of irrigated cotton fields will have to be raised from 0.67 metric tons to 1.2 tons. The following means are to be adopted to achieve this: large utilization of agricultural machinery, extensive reconstruction and widening of the irrigation system, extensive use of chemical fertilizers, improved selection of seeds, and finally crop rotation of cotton and alfalfa.

The experience of the experimental stations, and of the best collective farms, shows that nitrogen and phosphates, when used in the right proportions, combined with a correct system of irrigation and the proper application of the principles of agricultural science, may result in an increase of between 120,000 to 160,000 metric tons, or nearly one-half of the increase scheduled under the second Five-Year Plan.

USE OF FERTILIZERS.

It is estimated that by 1937 some 3,459,000 acres of irrigated land under cotton will be provided with nitrogen fertilizers. Already in the current year more than 865,000 acres of irrigated cotton fields have been fertilized. The present rate of 60 kilogrammes of nitrogen per hectare (2.471 acres) is, however, too low and the best results are not obtained. Twice as much, or at the very least, 90 kilograms per hectare, are considered the minimum requirements of the Soviet soil under cotton.

The correct dosing of fertilizers still leaves much to be desired. There has been so far no more or less accurate agro-chemical map to establish a strictly scientific dosing for every collective farm and every plantation, and without proper dosing the best results are not obtained from the fertilizers used. Such an agro-chemical map of the cotton-growing areas is being prepared this year in the U.S.S.R. and will be utilized in 1935.

During the operation of the first Five-Year Plan the cotton-growing areas of the Soviet Union were supplied with 15,000 tractors which were distributed amongst 300 machine-tractor stations. At the present time the cotton-growing areas have a sufficient number of tractors capable of satisfying their requirements. In this respect the cotton-growing area of the U.S.S.R. is even better served than that of the United States. While in the United States there is one tractor for every 258 hectares, in the Soviet Union each tractor only serves 110 hectares.

The cultivating tractor, the production of which has been organized in the Red Putilov works in Leningrad, will no doubt produce a radical change in the cultivation of cotton. In the next two years the cotton-growing regions are to obtain from the Red Putilov works about 10,000 cultivating tractors with all the necessary implements. Some fifty new tractor repair shops are also to be opened in the current year in the cotton-growing area, though this number is considered inadequate to maintain the tractor park in good repair. Intensive efforts are also being made to produce new machines for the harvesting of cotton. Till now the mechanization of cotton harvesting has remained an unsolved problem.

The various irrigation systems, even in their present state, have great unused reserves, and can supply much more water for the cotton fields than they do at present, provided there is better control and correct distribution of the water resources. A commission of experts has recently approved the plan for developing the irrigation system in the Ferghana valley, in Uzbekistan. When this plan has been carried out the cultivable land will have been increased by about one million acres. The irrigation system, which now serves some 3,212,000 acres, will be reconstructed. The first part of the work that is being carried out in the five-year period of 1933-1937 will make it possible to increase the yield by at least 120 to 160 kilogrammes per acre, and it will be possible to start planting about 86,000 acres of newly reclaimed land.

The construction of a water reservoir for the Murgab system near Tash-Kepri, in Turkmenistan, is another important item of the plan. The Murgab region is the principal source of the very valuable Egyptian seed cotton. The construction work is to be completed in two or two and a half years.

The Bokara oasis is the third important section of irrigation work planned in Central Asia. The new irrigation system in the oasis will make it possible to protect the cultivated land from becoming swampy or sterile because of salt water, and will put an end to malaria, which is a real scourge of these regions.

SCHEME FOR TRANSCAUCASIA.

Large irrigation work will also be carried out in Azerbaidzhan, where the water towers on both sides of the Kura River will be reconstructed. The cultivation of the best grades of Egyptian seed cotton is to be introduced in this area. Work on a much larger scale is to be carried out on the Murgan steppes of Azerbaidzhan, where it is possible in the course of three years to construct an irrigation scheme and to start cultivating many thousands of acres of new land.

The ever-growing importance of cotton cultivation in Azerbaidzhan makes this area the second important cotton centre in the U.S.S.R. Certain districts in this area are more suitable for the cultivation of Egyptian seed cotton than Central Asia. In some cases the climatic conditions are so favourable that the yield of Egyptian seed cotton is even greater than in Egypt itself.

Since the autumn of last year the republics of Transcaucasia and of Central Asia have begun to put into practice the Government decisions on crop rotation as one of the best means of increasing the yield of the soil. This year the collective farms have sown more than 321,000 acres with alfalfa—which was the first big step towards crop rotation.

In addition to the efforts made to increase the yield, important work was also carried out for improving the quality of the cotton, and a great deal has already been achieved in this respect. The average length of cotton fibre before the war was 26 mm., and according to the data supplied by the textile industry its average length in the last three years was 27.5 mm. The present grades ensure that by the end of 1937 the demand of the textile industry for long-fibre cotton will be fully met. It is considered possible to bring up the amount of long-fibre cotton to 40 per cent. of the total, instead of 18 to 24 as demanded by the industry.

In the spring of this year the work of improving the seeds was started. Out of the American grades sown in the current year 20 per cent. were long-fibre cotton, compared with 6 per cent. last year.

Not only the State farms, but also a number of the collective farms are engaged in producing new grades. A network of seed-growing machine-tractor stations has been established, and the industrial qualities of the newly-produced grades are being thoroughly tested. As a result of all these changes the importance of the Soviet Union as a cotton producer has greatly increased. In 1929 the share of the U.S.S.R. in the world cotton output was only 3.2 per cent., while in 1932 it already reached 7.2 per cent. From the fifth place in the world cotton production, which Russia occupied before the war, the country has risen to the third place, and when the work at present in hand is completed the U.S.S.R. should assume second place. It is anticipated that the carrying out of the present schedule will enable the Soviet textile industry fully to satisfy its requirements from home supplies.

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AMERICAN COTTON CROP REPORT, *OCT. 1st, 1934.

The report on the American cotton crop, issued on October 8 by the Washington Department of Agriculture, shows that the average condition on October 1 was 55.9, against 53.8 a month ago, 66.7 on October 1 last year, and 57.9 the ten-year average for October 1. This indicates an improvement of 2.1 per cent. on the month, as compared with a deterioration of 0.8 per cent. in the same period last year and an average September deterioration of 1.3 per cent. for the past ten years. The average yield per acre is estimated at 165.9 lbs., against 162.6 lbs. in the last report and 205.3 lbs. at the corresponding date last year. The indicated production is 9,443,000 bales, against 9,252,000 bales estimated on September 1 and an actual crop of 13,047,000 bales last year. The growth in Lower California, which is not included in the United States total, is estimated at 20,000 bales, against 18,000 bales harvested last season.

The following table gives details of production by states with comparisons (in thousands of bales).—

	1934		1933	1932
	Oct 1	Sept. 1	Crop	Crop
Virginia	36	38	37	34
North Carolina	646	656	684	660
South Carolina	695	703	735	716
Georgia	970	933	1,105	854
Florida	24	23	28	17
Missouri	195	175	253	307
Tennessee	370	355	443	480
Alabama	980	965	969	947
Mississippi	1,100	1,039	1,159	1,180
Louisiana	480	436	477	611
Texas	2,345	2,383	4,428	4,500
Oklahoma	370	424	1,266	1,084
Arkansas	810	711	1,041	1,327
New Mexico	77	77	94	72
Arizona	104	104	96	69
California	280	218	217	129
Other States	11	12	15	15
Total	9,443	9,252	13,047	13,002

* The November report arrived too late for inclusion in this section, and will be found under "1934-35."

BUREAU COMMENTS.

In its supplemental report on the cotton crop, the Washington Department of Agriculture, under date October 8, says that most of the increase occurred in states along the Mississippi River and also in Alabama and Georgia. These increases have, however, been offset by further declines in Texas and Oklahoma, with moderate losses in the Carolinas and Virginia. Conditions during September were more favourable than usual for picking and ginning, which progressed rapidly everywhere, except in Virginia and North Carolina, where excessive rains interfered and caused some rotting of bolls.

GINNING REPORT.

The Census Bureau reports that up to the close of September 30 a total of 4,958,000 bales of this year's cotton crop had been ginned. This compares with 5,908,000 bales to the same date last year and 4,836,000 bales two years ago. The amount ginned since September 15, when the last report was made up, is 1,827,000 bales, against 2,806,000 bales in the same period last year and 2,190,000 bales in 1932. The total ginnings include 87,000 round bales and 4,000 bales American-Egyptian, against 195,000 round bales and 616 bales American-Egyptian last year.

The following table gives details of ginnings with comparisons:—

				1934	1933	1932
Alabama	..	..	..	508,000	522,993	411,956
Arizona	..	..	..	26,000	8,252	10,927
Arkansas	..	..	..	453,000	302,054	501,851
California	..	..	..	80,000	5,008	7,400
Florida	..	..	..	16,000	20,015	10,891
Georgia	..	..	..	521,000	710,647	426,168
Louisiana	..	..	..	340,000	305,776	393,919
Mississippi	..	..	..	638,000	565,693	511,741
Missouri	..	..	..	86,000	30,550	80,731
New Mexico	..	..	..	29,000	10,434	4,613
North Carolina	..	..	..	75,000	298,782	226,079
Oklahoma	..	..	..	130,000	322,893	290,152
South Carolina	..	..	..	200,000	380,096	294,970
Tennessee	..	..	..	132,000	70,227	61,251
Texas	..	..	..	1,719,000	2,344,552	1,595,218
Virginia	..	..	..	1,000	9,036	6,129
Other States	..	..	..	4,000	1,063	1,994
Total	..	..	..	<u>4,958,000</u>	<u>5,908,071</u>	<u>4,835,990</u>

SUPPLY AND DISTRIBUTION OF COTTON IN THE UNITED STATES, SEASON 1933-34.

The preliminary report for the several items of the supply and distribution of cotton in the United States for the 12 months ending July 31, 1934, are presented in the following tabular statements published by the U.S. Bureau of the Census on September 6 last.

No. I shows the principal items of supply and distribution; No. II the comparative figures of stocks held on July 31, 1933, and 1934, and No. III further details concerning the supply and distribution. The quantities are given in running bales, except that round bales are counted as half-bales and foreign cotton in equivalent 500-lb. bales. Linters are not included.

I—COTTON GINNED, IMPORTED, EXPORTED, CONSUMED, AND DESTROYED IN THE UNITED STATES FOR THE 12 MONTHS ENDING JULY 31, 1934 (BALES)

Ginning, from August 1, 1933, to July 31, 1934	..	..	..	12,592,552
Imports	..	..	..	148,115
Net exports	..	..	..	7,531,299
Consumed	..	..	..	5,700,558
Destroyed (ginned cotton)	..	..	..	40,000

II.—STOCKS OF COTTON IN THE UNITED STATES, JULY 31, 1933, AND 1934 (BALES)

	1934	1933
In consuming establishments	1,230,369	1,348,236
In public storage and at compresses	5,565,140	5,736,398
Elsewhere (partially estimated)*	950,000	1,080,000
Total bales	7,745,509	8,164,634

III—SUPPLY AND DISTRIBUTION OF DOMESTIC AND FOREIGN COTTON IN THE UNITED STATES FOR THE 12 MONTHS ENDING JULY 31, 1934 (BALES)

SUPPLY

Stocks on hand August 1, 1933, total	..	..	8,164,634
In consuming establishments	..	..	1,348,236
In public storage and at compresses	..	..	5,736,398
Elsewhere (partially estimated)*	..	..	1,080,000
Imports (no allowance for receipts not declared and re-exports)	..	..	148,115
Ginnings during 12 months, total	..	..	12,592,532
Crop of 1933 after July 31, 1933	..	..	12,492,765
Crop of 1934 to August 1, 1934	..	..	99,787
Aggregate supply	..	..	20,905,301

DISTRIBUTION

Net exports (total less 3,116 re-imports year ending June)	..	7,531,299
Consumed	..	5,700,558
Destroyed (ginned cotton)	..	40,000
Stocks on hand, July 31, 1934, total	..	7,745,509
In consuming establishments	..	1,230,369
In public storage and at compresses	..	5,565,140
Elsewhere (partially estimated)*	..	950,000
Aggregate distribution	..	21,017,366
Excess of distribution over supply†	..	112,065

* Includes cotton for export on shipboard but not cleared; cotton coastwise; cotton in transit to ports, interior towns, and mills; cotton on farms, etc.

† Due principally to the inclusion in all distribution items of the "city crop," which consists of rebaled samples and pickings from cotton damaged by fire and weather.

NOTE.—Foreign cottons included in above items are 146,859 bales consumed, 83,546 bales on hand, August 1, 1933, and 96,106 bales on hand July 31, 1934.

SECRETARY HESTER'S ANNUAL FIGURES.

Secretary Hester, of the New Orleans Cotton Exchange, in his annual statement estimates world consumption of American cotton during the season ended July 31, including linters at 14,472,000 bales, against 15,307,000 in the preceding season, and 13,331,000 two seasons ago. Excluding linters, the estimate is 13,537,000 bales, against 14,424,000 and 12,580,000 respectively. World carry-over, including linters, is estimated at 10,921,000 bales against 11,733,000 a year ago and 13,449,000 two years ago; excluding linters, 10,598,000 against 11,339,000 and 12,911,000 respectively.

*The International Cotton Federation's statistical compilation placed this figure at 13,539,000.

U.S. COTTON LOANS.

President Roosevelt, in a statement issued at the White House on August 21 last, announced that he had directed the Reconstruction Finance Corporation to make necessary funds available to the Commodity Credit Corporation to carry out the Government cotton loan programme. His statement said :—

“To enable cotton farmers to market their cotton more nearly as it is required for consumption, rather than necessarily at picking time, I have requested the R.F.C. to make funds available to the Commodity Credit Corporation that will enable it to increase its lending from 10 cents to 12 cents a pound on cotton, classing low middling or better, which is and has been continuously in the possession of the producer.

“While the Commodity Credit Corporation is still carrying for the producers about 1,000,000 bales of last year's crop and the cotton producers' pool approximately 2,000,000 bales additional, it is worth noting that the still large surplus of cotton will in all probability show this year a reduction of about 4,500,000 bales from last year.”

Under the new cotton loan plan the Government will advance farmers who wish to hold their cotton 12 cents a pound instead of 10 cents. Should cotton fall below 12 cents the Government will take the loss. If the price of the staple rises above the loan figure, the farmers are to repay the Government.

The *New York Journal of Commerce* states that Secretary Wallace was not over-enthusiastic about the cotton loan plan. The Secretary opposes any operation which suggests attempted stabilization, and feels that if the loan rate is raised once, the Government will be constantly swamped with demands to raise it still further.

COTTON PROCESSING TAX TO BE CONTINUED.

The A.A.A. announced on July 31 that the cotton processing tax will continue to be in effect for the 1934-35 cotton marketing year, and that no change in the rate of tax is being made. The announcement was made in order to dispel the uncertainties that had developed regarding the cotton tax.

"In view of the requirements of the Agricultural Adjustment Act" the statement concluded, "the Administration feels warranted in assuring industry that no redetermination of the rate of the raw cotton processing tax is at present contemplated."

American *versus* Outside Growths of Cotton.

Dr. A. B. Cox, of the University of Texas, in his September summary of the cotton situation, made the following interesting observations:—

"The world cotton situation is clarifying itself rapidly. So far, other cotton-growing countries of the world have been quick to take advantage of the programme of the United States to restrict production to raise prices and have increased their production accordingly," he explained. "On the other hand, the United States restriction programme has been accompanied with an increase of thousands of rural people in the South on public relief rolls. These facts are gradually driving home to the South a realization that cotton and its related industries are the foundation of the economic life of the South, and the fear is arising that greater economic disorganization and poverty must fall on the region unless foreign markets are regained for 50 per cent. or more of the region's normal raw cotton production.

"Prior to 1933, the all-time high record of foreign cotton production, according to Garside, of the New York Cotton Exchange, was 11,881,000 bales in 1929-30. Foreign production in 1933-34 is estimated to have been 12,103,000 bales, and the estimate for this year is 13,225,000 bales. Foreign production for the first time since the Civil War will exceed United States production. If present authoritative estimates are correct, United States cotton production will constitute only about 41 per cent. of the world total crop and foreign countries, 59 per cent. World total production this year is now estimated at approximately 22,500,000 bales, a decline of about 2,500,000 bales from last year. Production in the United States is down about 3,500,000 bales.

" Cotton growers in foreign countries as a rule sell their cotton in the year of harvest. This means that the world's consumption this year will be made up of at least 13,000,000 bales of foreign cotton plus American. The present rate of world consumption indicates a total consumption of all kinds of cotton for the year 1934-35 of less than 24,000,000 bales, which means that 11,000,000 bales or less of American cotton will be consumed.

" Increases in cotton acreage tell the same story as the production and consumption figures already cited. In the crop year 1932, the United States harvested 35,939,000 acres of cotton and foreign countries 40,561,000 acres, or a total world acreage, according to the U.S. Department of Agriculture, of 76,500,000 acres. With the restriction programme of the Agricultural Adjustment Administration and the Bankhead Act, the Federal Government has cut American acreage planted to cotton for the season 1934-35 to 28,024,000. Reliable estimates place foreign acreage at 48,950,000, making a total for the world of 76,974,000 acres. In other words, during the two years this programme has been in operation, *foreign countries have increased acreage more than enough to offset the forced decrease in the United States.* A résumé of maximum cotton acreages of each foreign country indicates the possibility of readily expanding foreign acreage another three to five million.

" Perhaps the truest and most significant test of the extent of America's loss of foreign markets for raw cotton is the decrease in the proportion of foreign consumption supplied by the United States. During the three years 1926-28 inclusive, which are typical average years, the United States supplied over 45 per cent. of the raw cotton consumed in foreign countries. In 1933-34 the United States supplied 41 per cent. of the raw cotton consumed through foreign markets, and indications are now that in 1934-35 the United States will supply only about 30 per cent. of the world cotton consumption outside the United States.

" The facts cited above state in no uncertain terms that the time has already passed for discussing whether or not foreign cotton-producing countries are going to take our foreign markets. The cold fact is, they have already done it to the extent of approximately 2,000,000 bales since the Government inaugurated its restriction programme. The real questions confronting the United States now are, can the lost markets be regained, and if so, at what price?

" What will hinder the United States from getting back its markets and normal production? Consider the following facts: The Government 12 cent loan programme now in operation to encourage farmers to hold cotton, plus the large amount already frozen in Government hands, will prevent all but the very minimum reduction of carry-over of American cotton at the end of this cotton year. The prospect now is that the carry-over of American cotton will be reduced not to exceed 2,000,000 bales. In other words, the American carry-over will still be excessive in August, 1935, and because of the 12 cent loan it is possible that 5,000,000 bales of the carry-over on that date will be concentrated in the hands of the

Government, which supply will eventually have to be sold in direct competition with farmers.

"When can the United States go back to normal production of cotton under such a handicap? Normal pre-depression acreage in the United States was about 45,000,000. There is every indication that acreage in foreign countries will reach 50,000,000 or more in 1935-36. What would happen to the price of cotton with normal production on 95,000,000 acres?

"How low a price will it require to drive foreign production down to where the United States could grow even 40,000,000 acres in cotton? These questions cannot be answered entirely; however, there are some facts which suggest the answer: Foreign cotton producers are in a stronger position relatively than ever before. Many additional foreign mills have set their spindles to spinning foreign cotton. Mills do not like to change. Foreign growers have gained some advantages in lower costs due to larger volume production. More capital has been invested in the business in the way of gins, roads, and industries for handling cotton-seed. Because of these and other considerations it seems certain to take a lower price to drive foreign producers out of production than it did at the time they came in. If the United States could not compete then, on what ground could it hope to do so now?

"If the South is not to regain its foreign markets for cotton, then the serious questions are: What will the thousands of people who have been growing, harvesting, ginning and handling this large volume of export cotton do? Is there a more profitable crop they can grow, or could livestock enterprises be made profitable. Should the South abandon a large part of its agriculture and endeavour to find employment in industries for the surplus number of people?

"Staggering relief rolls state stronger than any language that these are not academic questions, but very real and insistently demanding an answer. Is it necessary to have still other demonstrations that these fundamental questions can not be solved by any temporary 'shot in the arm' scheme?"

ENFORCEMENT OF BANKHEAD GINNING ACT.

According to a recent report emanating from the American Cotton Crop Service, Madison, Florida, the failure to suspend the Bankhead Ginning Act for the current season has aroused considerable interest among cotton growers relative to the good and bad features of regimented agriculture. Crop observers from the eastern half of the Belt indicate much dissatisfaction over ginning allotments as well as the delay in tax tag distribution. From the western half of the Belt crop observers state that farmers are more favourably impressed, hoping to sell their unused allotment tags at a profit. At any rate, the Bankhead Act will remain in force until May 31, 1935, and may be continued another year under the following conditions: "If the President finds that the economic

emergency in cotton production and marketing will continue, or is likely to continue to exist, so that the application of this Act with respect to the crop year 1935-36 is imperative in order to carry out the policy of the Act, and if the Department of Agriculture finds that two-thirds of the producers favour its continuance." Information leads to the opinion that the Act would be condemned if growers were asked to vote in the immediate future. However, the cotton farmers may change their minds by the time voting takes place.

TAG DELAY IN SOUTHERN THIRD OF U.S. COTTON BELT.

It has lately been pointed out by the American Cotton Crop Service that cotton growers in the southern third of the Belt have been heavily penalized by the delay in receiving allotment selling tags, which must be attached to each bale of cotton offered for sale under the Bankhead Ginning Law. The crop in the southern third of the Belt is usually harvested during August and early September, and the difference in price for which cotton sold in August and the present represents fully 1 cent per pound. During August most cotton growers received allotment selling tags for about one bale out of five harvested, whereas if the tags had been sent out on time the crop would have been sold at top prices. Reports indicate the delay in receiving selling tags has not only been costly to growers in the southern third zone, but has also promoted a strong reaction against any form of regimented agriculture.

GRADE AND STAPLE REPORT.

According to the United States Department of Agriculture, the grade and staple of all cotton ginned to October 11 last shows that over 9.7 per cent. of cotton ginned is shorter than $\frac{7}{8}$ in. Last year, up to September 16, only 1 per cent. was shorter than $\frac{7}{8}$ in. compared with 6 per cent. in 1932. With regard to grades, 8.3 per cent. is below spotted strict middling. Thirty-one per cent. of the crop is extra white strict middling and 15.5 per cent. extra white good middling, whereas last year 31 per cent. was strict middling and 41 per cent. middling. As regards tenderability, 10.3 per cent. of total deliveries to date are untenderable compared with only 2 per cent. last year.

From the above reports it is obvious that this season the American crop is a short staple, high-grade crop, although grades will fall off more rapidly towards the end of the season.

According to information received from the Cotton Belt, the probable effect of the drought upon the quality of this season's

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crop will be that the staple lengths grown from Mississippi westward will probably prove shorter this year than usual.

A large proportion of the $\frac{1}{16}$ in. to $1\frac{1}{16}$ ins. cotton has heretofore originated in Texas and Oklahoma, although there has been a slight increase in the production of these lengths in the Carolinas. The prolonged drought in Texas and Oklahoma will undoubtedly have cut the staples by $\frac{1}{16}$ in. in most sections, and even by $\frac{1}{8}$ in. in the driest regions. Furthermore, the fibre produced will be soft, wasty, and containing a large proportion of immature cotton.

The Mississippi delta has also been affected, and the staple crop of $1\frac{1}{16}$ ins. and longer may be small. Recent rainfall in that section has improved conditions, but the staple will not be of the hard-bodied good spinning character cotton.

AMERICAN COTTON EXPORTS.

The Secretary of Agriculture, Mr. Wallace, recently stated that the Administration will adopt no long-range cotton programme until farmers of the South decide to what extent they plan to figure in the world market.

Next year's expected reduction in exports, the Secretary said, could not be attributed in the main to the Administration's adjustment programme, but rather to a sharp falling-off in German demand and other special factors not related to the AAA.

Pointing out that some handlers of cotton had charged America is losing its share in the world market, Mr. Wallace said such discussions in the terminal markets were "only a partial presentation of the situation."

He added, however, the Government's 12-cent loan on cotton was in effect holding up world price, and said there undoubtedly were countries "over which the umbrella is being held," who were underselling the United States.

The entire situation, he added, ultimately will have to be settled by the South, remarking that in the long run "the South will have to debate and decide what share of the world market it wishes to maintain."

The Secretary made it clear a continuance of the loan policy was to be expected.

Mr. Wallace said plans for next year's cotton programme had not as yet been completed.

In other quarters it was learned details of next year's programme are to be placed before the farmers before they vote on continuance of the Bankhead Production Control Act for another year, and that a general outline of the plan is expected by November 15.

Informed sources have seen a prospect that next year's acreage probably will not be less than 39,750,000 or some 3,500,000 greater than for this year.

GEOGRAPHICAL DIVISION OF COTTON EXPORTS.

Up to Friday, October 19, 1934

	Since August 1 this year	Since August 1 last year
Great Britain	154,043	330,386
France	100,567	250,414
Germany	151,257	400,719
Holland	16,315	31,303
Belgium	17,072	35,442
Russia	—	30,224
Denmark	15,823	10,778
Norway	822	1,341
Sweden	14,225	15,707
Portugal	8,176	12,757
Spain	60,750	71,012
Poland	40,732	47,965
Italy	80,729	184,265
Greece	50	101
Japan	370,935	462,970
China	34,454	45,651
Mexico and Porto Rico	199	—
British Columbia	869	1,450
Finland	1,089	450
India	100	8,122
South Africa	140	100
Turkey	—	—
South America	1,345	3,858
Switzerland	—	—
Bulgaria	—	—
Latvia	—	—
West Indies	—	—
Philippine Islands	56	200
Austria	—	—
Estonia	184	75
Canada, etc.	54,506	44,034
Roumania	140	—
Nassau	22	—
Mozambique	2	—
Total (including shipments to Canada) ..	<u>1,124,822</u>	<u>1,089,324</u>

Exports of American cotton are 854,502 bales behind last year's shipments.

COTTON ACREAGE, 1935.

Mr. C. T. Revere, of Munds, Winslow & Potter, recently made the following statement regarding cotton acreage in the U.S.A. during the coming year:—

“One feature that will be watched with much interest by the cotton trade and to which may be attached considerable significance is the price relationship of October, 1935, compared with the old

crop positions, particularly July. The discount at which October has sold in Liverpool and which has appeared with the opening of trading in that month both in the New York and New Orleans markets would suggest that the trade has made up its mind that next season's acreage will be substantially increased and that the prospects will point to a large crop. Furthermore, it seems to be inferred that a hand-to-mouth policy will be followed by the spinners of the world toward American cotton owing to the present high basis on the old crop and the possibility of a materially increased yield next year.

We believe the tentative formula for next season's acreage is about as follows:—

The base acreage on which calculations are to be made is in the neighbourhood of 38,000,000 acres, representing the estimated area of 1933 on which "plough-up" contracts were made. Under the terms of the contract as they relate to 1935, no demand can be made by the Department of Agriculture for a reduction of more than 25 per cent. This would represent a maximum reduction of approximately 9,500,000 acres from the base area of 38,000,000, or a minimum area of 28,500,000 acres.

It is within the discretionary powers of the Secretary of Agriculture to permit a larger acreage. However, assuming that the maximum reduction is required—placing the contract acreage at 28,500,000 acres—it will be necessary to take into consideration the area that will be devoted to cotton cultivation by non-compliants. Just how large this area might be, whether 1,000,000 or 3,000,000 acres, is something that perhaps even the Department officials would hesitate to estimate."

CROP REPORTS.

Messrs. Weil Brothers, Montgomery, Alabama, in their semi-monthly crop letter dated October 1, 1934, state as follows:—

Weather during the last half of September was hot and quite favourable. The plant took on moderate fruit in a few localities, but the top crop is light because the plant, generally speaking, was beyond the fruiting stage. We estimate at this writing North Carolina, South Carolina, Georgia and Alabama cotton open in the field 73 per cent., of which 48 per cent. picked. In Louisiana, Mississippi and Tennessee 85 per cent. open, of which 62 per cent. picked.

For the whole of the Western Belt the weather in September was quite favourable, preceded by mostly hot and dry weather. Showers and cooler weather were had during the month, especially the latter part, consequently it revived the plant and stopped the premature opening of the bolls and rapid deterioration of lint per acre. It is reported there will be a light top crop, especially in Oklahoma. Estimates by our correspondents are 82 per cent. open, of which 63 per cent. picked.

Crop prospects, on the whole, have improved during September.

They have maintained the status of the condition as of September 1, and added on to that to some extent. The weather kept the crop from deteriorating more and the bolls from prematurely opening and added to the crop in the shape of a top crop, but only to a moderate extent.

All of our reports show that the farmers are availing themselves largely of the 12 cent loan by the Government. It varies in localities—some localities have turned in as much as 75 per cent.—some say as fast as it is ginned and baled. Meantime the basis is very high—both buying and selling. Demand is moderate. It is reported, and it is substantially true, that not only is the yield of foreign growths much larger than last year and year before last, but that foreign growths, generally, are considerably cheaper than American growths of the same quality. It is currently reported that the differences on many of the foreign growths are about 1 cent cheaper in foreign lands than they can be exported from the United States. It would seem that the United States, as far as production and price are concerned, is holding an umbrella over foreign countries producing cotton.

A later report, dated October 16, states:—

The summary of replies received for the first half of October for the whole of the Cotton Belt, tersely speaking: Weather was generally favourable—there were some exceptions, of course; reports indicate 96 per cent. open in the fields; 84 per cent. picked; the percentage of ginnings is greater than for average seasons. In some localities fields are green, notably in the Eastern Belt and low lands in the Central and Western Belts, but in the Belt as a whole there is very little top crop, but probably more than was anticipated in the early autumn. As stated in our previous crop letter, farmers have been taking advantage of the plan of the 12 cent loan by the Government, and are now still pursuing that same policy—if anything more intensely. Farmers are taking no risks.

The spot situation is unique, inasmuch as there is very little cotton selling from first hands, and the basis is extraordinarily high, both the buying and selling basis. The premiums of distant months for future delivery offer no incentive for the buyer or merchant to stock up. On the contrary, operations are based on a hand-to-mouth policy. Meantime, exports have been, and are now, much lighter than for several years. It seems foreign countries are lacking buying power.

The American Cotton Crop Service, Madison, Florida, communicate the following report under date of October 22, 1934:—

Our late reports indicate top crop prospects in the Western Belt showed little improvement during the week ending October 20. The small bolls reported in the northern half of Texas may make a crop of "bollies," but they are opening rapidly, and many prematurely. Crop observers are expecting a very small percentage of the "bollies" to be harvested after frost. Except in West Central, West and North-West Texas, leaf-worms were reported defoliating the plants rapidly, thus reducing top crop prospects. During September crop observers were of the opinion that a material

increase in production would occur in Texas owing to top crop possibilities. However, with premature opening unchecked in many areas of the northern half of the state, the outturn is not expected to increase above the Bureau October 1 estimate. A much larger number of bolls are being required to make a pound of lint on account of premature opening, and there is a possibility that the Texas estimate may be still further reduced in spite of a small top crop of "bollies." As an illustration of the effect of boll size on yield the following calculation may be of interest:—

Bolls safe September 1, 1933	...	...	5.9 bolls per plant.
Size of bolls	...	...	90 per cent. of normal.
Final yield, 1933	...	...	185 lbs. per acre.

Therefore, the

Value of 1 boll, 90 per cent. of normal	...	31.3 lbs. per acre ($185 \div 5.9$)
Value of 1 boll per plant, normal size (100 per cent.)	...	34.7 lbs. per acre.
Bolls safe September 1, 1934	...	3.9 bolls per plant.
Indicated yield per acre, if bolls were same size as last year (31.3×3.9)	...	121 lbs. per acre.
Value of 1 boll per plant, 75 per cent. of normal (75 per cent. of 34.7)	...	26.02 lbs. per acre.
Indicated yield per acre, 1934	...	101.5 lbs. per acre.

Reports show that farmers are holding a considerable portion of the 1934 crop for higher prices. Cotton growers, knowing they can borrow 12 cents per pound from the Government on baled cotton, are reluctant to sell except where it is necessary to meet pressing financial obligations. Gins are still running in many localities in the southern third of the Belt, due to delay in allotment sale tags reaching the growers.

Fossick's Statistical Bureau, Inc., Memphis, Tenn., report as follows, as per October 19, 1934:—

Weather conditions were favourable during the week over most of the Belt for the cotton harvest; there was some delay early in the week over most sections east of the Mississippi, owing to wet fields caused by rainfall towards the close of the previous week.

Good progress was made with harvesting, which is nearing completion except in northern portions of Alabama and Georgia and over portions of the Carolinas.

Very little in the way of a top crop is expected east of the Mississippi River, but new growth since drought was broken has encouraged hope for a top crop, although a light one, in portions of Texas. Otherwise the Texas crop, except in extreme northern portions, is pretty well all out of the fields.

Cattle are being turned into scattered fields in nearly all sections of the Belt west of Alabama, including the more northern sections of the Central Belt.

Our advices indicate that there is some question as to whether the Atlantics will make the last Government estimate; on the other hand, the consensus of opinion seems to be that Mississippi and the area west of the Mississippi River may make slightly more. No unusual damage by insects is reported from any section but the Carolinas. North Carolina, in particular, report rather important losses due to boll rot.

MARKET REPORT.

Messrs. Munds, Winslow & Potter, New York, write under date October 19, as follows:—

Just to what degree the increased absorption of "outside growths" might affect the price relationship of foreign and American cotton, and in what measure the demand for American cotton might be favourably affected by steps undertaken to provide purchasing power for foreign spinners is a question which time alone can answer.

Europe may take more cotton than now seems probable; the supply of foreign growths may not reach optimistic expectations; and the amount placed in the 12-cent loan may exceed current estimates.

In our opinion, the situation in any event will be tight enough to bring about a higher contract level, although America may find in the long run that this impounding of supplies has been a short-sighted economic venture for which no advance in price can afford full compensation.

Brazilian competition continues to furnish a topic in the forefront of discussions in cotton circles. Ultimately, if our present agricultural policies persist, Brazil seems likely to turn the scale against American sovereignty in the cotton markets of the world. For the present year, and perhaps one or two longer, Brazil is likely to find its Southern crop the chief competitor of the American product. It comes from an annual plant and it is fairly even running in staple and quality. Northern Brazil has the reputation of turning in mixed bales due to the hybridization of the plant in the Equatorial areas. Tree cotton and newly-planted cotton have different fibre lengths, and the element of detrimental pollenization is another factor affecting staple uniformity. We understand that southern Brazilian cotton of shorter staple is selling at a substantial premium over the mixed longer staple of the north.

The cotton trade, both at home and abroad, is awaiting with keen interest the announcement of the Secretary of Agriculture regarding next season's cotton acreage. Liverpool cables indicate a disposition to conclude that the allowable acreage will be sufficient to have a depressing price effect.

Without venturing opinion on this moot question, we shall attempt to give merely our conception of the probable acreage programme. The contract for acreage adjustment was a one-year or two-year affair. Contracts were signed by more than 1,000,000 producers. This figure may be somewhat misleading when one considers that the number of cotton growers in the South is estimated at between 2,000,000 and 2,500,000. These larger

figures include tenant farmers. Contracts, however, were signed only by the landlord element, some of whom have a large number of tenants on their lands. As a matter of fact, the signatories of the contract represent more than 90 per cent. of the cotton growers of the South, according to official computation.

The acreage reduction programme signed for last season would bind the signatory growers to any programme promulgated by the Secretary of Agriculture for 1935, if announced before December, 1934. Consequently, it is expected that the details of the plan will be made public around or shortly after the middle of November.

Another thing to be kept in mind is that the acreage for the season of 1934 cannot exceed an area reduced 25 per cent. from the base acreage of 1933, before the plough-up campaign. The maximum, therefore would not be in excess of 30,750,000, acres, and it might be less.

Crop forecasts based on such a area and formulated months before a single seed is planted might be an interesting adventure into prophecy, but the production figures would be hazardous for adoption in the formulation of market and price conclusions.

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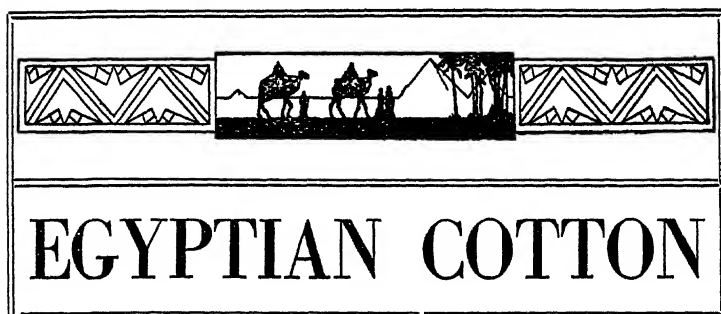
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HUMIDITY AGREEMENT.

It has recently come to the notice of the Head Office of the International Cotton Federation that certain spinners are demanding terms from Alexandria cotton exporters in the buying of cotton outside the terms of the Humidity Agreement, and we desire to remind our readers that all members of the International Federation are bound by the terms of the Humidity Agreement in the same way that the Alexandria cotton exporters are bound to observe the conditions of the agreement. It follows that neither the exporter nor the spinner can impose conditions on the other which are not included in the Humidity Agreement.

STATISTICS OF ACREAGE, 1934.

(By varieties and by provinces)

		Ashmouni											
		Sakel-laridis	Zagora and	Giza 7	Maarad	Fouadi	Sakha 4	Pihon	Nahda	Giza 3	Casulli	Various	
Lower Egypt													
Gahoubieh ..	Fed.	1,138	48,274	1,680	609	137	—	549	—	—	33	—	1
Charkieh ..	"	38,273	92,591	19,495	24,590	2,000	104	80	648	321	—	—	703
Dakahlieh ..	"	112,861	52,844	28,181	6,080	3,744	1,328	375	4,172	245	—	—	125
Garbieh ..	"	223,695	50,098	75,484	19,210	14,423	7,315	3,312	5,200	540	3,209	—	1,000
Menouneh ..	"	1,123	78,364	9,008	2,014	126	4	725	15	39	5	—	503
Behera ..	"	46,172	8,411	151,267	1,331	18,458	1,137	2,602	313	414	67	—	2,324
		417,280	340,177	285,685	54,434	38,892	10,004	7,623	10,348	1,650	5,394	—	5,496
Upper Egypt													
Ghizeh ..	Fed.	2,222	31,536	155	3	332	—	—	—	—	—	—	132
Beni-Souef ..	"	—	78,008	—	—	—	—	—	—	—	—	—	—
Fayoum ..	"	—	88,520	228	—	—	—	—	—	—	—	—	—
Ghurghieh ..	"	—	50,362	30	—	—	—	—	—	508	—	—	—
Minieh ..	"	—	151,502	2	—	—	—	—	—	—	—	—	2
Assiout ..	"	—	133,147	—	—	—	—	—	—	4,717	—	—	—
Keneh ..	"	—	11,923	443	—	—	—	—	—	1,829	—	—	—
Assouan ..	"	—	372	—	—	—	—	—	—	1,089	—	—	—
		2,222	545,370	853	3	332	—	—	—	8,143	—	—	134
Total, Egypt, 1934		419,502	885,547	286,543	54,437	39,224	10,008	7,623	10,348	9,702	3,394	—	5,630
Total, Egypt, 1933		391,051	1,010,359	124,330	109,764	49,118	46,460	81,369	27,117	6,692	3,093	—	4,878
Total, Egypt, 1932		369,294	506,973	35,086	60,590	16,320	17,953	39,187	29,323	6,589	1,591	—	1,863
Total, Egypt, 1931		478,579	788,643	34,710	110,958	39,610	—	157,477	58,262	37,510	—	—	12,199

THE EGYPTIAN GOVERNMENT AND COTTON BUYING.

According to cable advices dated Cairo, July 16, the Egyptian Government undertook to liquidate the rest of its cotton stock by the end of July. Only a few thousand cantars remained, and when these had been sold it was reported that the Minister of Finance had decided that in no circumstances would the Government intervene in the capacity of buyer on the cotton market again. Government transactions on the cotton market from 1926 to September, 1933, are estimated to have cost the country over £9,000,000.

The Cotton Worm in Egypt.

Mr. Ibrahim Bishara, Senior Entomologist to the Egyptian Ministry of Agriculture in Cairo, has recently published an extremely interesting and comprehensive treatise upon the subject of the Cotton Worm in Egypt.

The pest is fully discussed by the author, both with regard to the different stages of its development, its life history and habits, the nature and extent of the damage which it causes, and the measures which have been adopted to counter it.

The publication is a fine record of the many years of careful research work which the Entomological Section has made in this direction, and is amply illustrated by coloured plates.

The damage done to the Egyptian cotton crop by the cotton-worm (*Prodenia lituria*) has assumed much greater importance during the last few years, and is now one of the chief difficulties of the cotton growing in the northern portion of the Delta. The cotton-worm, however, is not confined to the northern portion of the Delta, but the pest is more prevalent in the north, due to the higher humidity in that district. It is said that Egypt's climate is generally becoming more humid and that the increase of this pest is to a major degree due to the increase in humidity.

This increasing humidity is the result of a better summer water supply, more frequent watering of cotton, and, in particular, of the larger areas now sown to rice. If this, as is almost certain, is the correct explanation of the leaf-worm increase of the last few years, it is obvious that the future holds out no hope of a check from this reason, rather the contrary. A juicy, well-grown, well-watered plant is more attractive to the worm than dry starved plants, and cultivation and watering in Egypt is definitely improving.

The pest is kept under control by picking, but only by more or less forced labour on picking, and an army of Government inspectors to enforce it. The slightest relaxation of this control means that some peasants neglect to pick the eggs, and serious damage results.

Several poisons tried have not proved very efficacious, and, even if a suitable one were found, it would probably not be used by the small fellahin. There is, however, one method of check which

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is of interest. It is known that the first generation of the worm on cotton mostly comes from *berseem* (Egyptian clover), and because of this a law prohibiting the watering of *berseem* after May 10 has for long been in existence, the idea being that if the *berseem* be dried up by this date there will be no continuity of green food for the worm.

Unfortunately, this law has been more honoured in the breach than in the observance; in fact, the author states that the number of contraveners is not far below the total number of farmers. The big landowners may be expected to observe the law, as the need for fodder is not so pressing to them as it is to the small farmers and fellahin.

But the authorities have now fully realized the importance of this law, and the Ministry of Agriculture has taken stronger action in this respect during the current season.

GOVERNMENT'S FIRST COTTON CROP ESTIMATE, 1934-5.

The Egyptian Government recently published its first cotton crop estimate for the season 1934-35. The figures are as follows:—

Varieties	Seed Cotton		Lint Cotton	
	Average yield per feddan Cantars		Average yield per feddan Cantars	
	Cantars		Cantars	
Long staple cotton				
over $1\frac{3}{8}$ in. :				
Maarad	235,534	4.33	236,137	4.34
Sakha 4	35,184	3.52	37,225	3.72
Sakel	1,259,091	3.00	1,242,723	2.96
Giza 7	1,071,734	3.74	1,128,396	3.94
Casulli	15,679	4.62	15,381	4.53
Total	2,617,222	3.88	2,659,862	3.44
Medium long staple				
cotton over $1\frac{1}{2}$ in. :				
Fouadi	147,025	3.75	150,407	3.83
Nahda	42,747	4.13	44,760	4.33
Pilion	27,246	3.57	29,230	3.84
Giza 3	53,191	5.48	58,436	6.02
Total	270,209	4.04	282,842	4.23
Medium staple cotton				
over $1\frac{1}{4}$ in. : ..				
Zagora	1,660,310	4.69	1,846,265	5.21
Ashmouni	2,948,859	5.55	3,233,935	6.09
Other varieties ..	22,983	4.08	23,509	4.18
Total	4,632,152	5.20	5,103,709	5.73
TOTAL				
	7,519,583	4.34	8,046,413	4.65
		Scarto ..	170,288	
		Total (including Scarto)	8,216,701	cantars

THE COTTON SITUATION IN EGYPT.

The Commission de la Bourse de Minet-el-Bassal recently published the following résumé of cotton crop information received during September, 1934:—

Lower Egypt: While the dampness of the nights and the fogs did slight damage, the temperature during September was on the whole favourable to the maturing and opening of the bolls which remained on the plants.

Pink-worm and boll-worm caused fresh damage. The attacks were more than usually severe, the number of bolls affected varying from 20 to 40 per cent.

In some plantations bordering on the Nile a certain amount of damage—though in general not extensive—was done by infiltration due to the high flood.

For the reason given last month (namely excessively high temperature which forced the opening of bolls), picking was some 15 days pre-normal; in the Southern provinces especially only a single picking was made, and in some districts the plants have already been uprooted. In the North some plants still remain standing, but only a poor yield from them is anticipated.

The yield per feddan is irregular, varying from one district to another. Even where plants have been observed to carry more bolls than last year, however, it is expected that the final yield will prove smaller than last season.

The quality of the cotton is in general slightly inferior to that of previous years and the ginning outturn is irregular and on an average lower than last year.

Upper Egypt and Fayoum: The temperature during September was favourable to the plants. As in the Delta, there has been as a rule only one picking. The cotton which still remains on the plants represents only an insignificant quantity.

Compared with last year, the yield per feddan is lower and the ginning outturn slightly smaller.

The damage done by infiltration has been insignificant.

GOVERNMENT GINNING REPORT.

The Ministry of Agriculture have published the following report giving details of cotton ginned during the month of September:—

	1934 Cantars	1933 Cantars	1932 Cantars
Sakellaridis	38,945	5,210	27,640
Other long staple varieties of 1½ in. and more	109,618	15,434	22,028
Medium staple varieties (1¼ in.)	13,918	5,248	15,097
Medium staple varieties (1½ in.)	955,302	621,074	352,623
Scarto	15,071	5,665	6,114
Total	1,132,854	652,631	423,502

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August	17,629	22,469	18,759	20,285	7,073	5,067	6,398	11,268	7,826
September ..	22,884	19,795	16,297	17,484	7,915	7,096	8,323	9,165	—
October	20,812	19,413	20,057	20,107	9,429	6,598	7,838	9,558	—
November ..	16,383	20,507	17,858	18,268	8,980	8,009	7,908	9,020	—
December	16,876	18,864	18,003	17,976	10,134	6,509	6,645	6,150	—
January ..	17,297	20,199	22,325	19,646	7,782	6,611	5,998	10,211	—
February ..	17,042	20,435	19,546	17,086	8,377	6,665	6,253	9,280	—
March	21,773	17,112	20,515	15,826	8,774	8,268	7,212	10,705	—
April ..	19,527	16,466	20,159	18,156	9,763	6,427	6,217	8,553	—
May ..	22,146	14,943	20,484	16,947	8,680	6,908	9,319	7,395	—
June ..	26,045	18,951	18,046	18,278	8,898	6,026	9,040	6,284	—
July ..	21,354	13,430	20,343	11,761	7,740	6,085	6,684	6,051	—
Total	239,769	217,384	232,392	205,765	104,095	79,464	88,805	103,660	—

*Subject to slight revisions

MARKET REPORTS.

Messrs. Reinhart & Co., Alexandria, Egypt, in their market letter dated October 26, 1934, state as follows:—

Exports so far this month are very satisfactory, viz., 90,740 bales as against 70,811 bales in 1933. The increase principally bears on Ashmouni/Zagora with 76,386 bales as against 49,844 bales, and on Guizeh 7 with 3,825 bales as against 1,679 bales. On the other hand, only 7,062 bales of Sakellardis were exported compared to 13,462 bales.

Spot Market: Minet-el-Bassal was fairly active with a total turnover of 16,197 bales for the week. The main demand continues to bear on medium grades Uppers/Zagora, which qualities are oversold. A comparatively better enquiry was met with for Sakellaridis and Maarad, but holders are pretentious, as they are unable to replace the cotton in the Interior at present premiums. Guizeh 7 is slightly easier. Sales for the week are returned with 8,500 bales of Ashmouni, 2,539 bales of Zagora, 2,462 bales of Sakellaridis, 1,177 bales of Guizeh 7, 680 bales of Maarad, 224 bales of Fuadi and 615 of other varieties.

Arrivals: Although this season's crop is likely to be smaller than the last one by about half a million cantars, arrivals so far considerably exceed those of the corresponding period in 1933, viz., 2,034,630 cantars as against 1,728,788 cantars, which is entirely due to the earlier picking of the crop.

The Alexandria Commercial Co. (S.A.) *communicate the following, under date of October 26:—

Uppers. In spite of the heaviness of the New York market and the fact that the dollar has been weaker, the better tendency, to

which we referred last week, persists in our market. The cause of this relative firmness remains the same, a very good demand from world spinners generally, which, judging by the export figures up to date, would indicate that it is even better than last year; on the other hand, supplies of these varieties will be smaller. The following are the export figures to date: 848,000 cantars against 586,000 cantars last year, the probable supply being 5,600,000 cantars against 6,100,000 last year.

The statistical position, therefore, would seem to be quite favourable and, provided our prices remain at a reasonable parity with American, there should be little difficulty in disposing of the whole of the supplies.

The movement of the crop in Upper Egypt and that of Zagora in the Southern Delta is diminishing a good deal, as more than half the crop has already passed from the hands of growers into those of exporters.

Sakel. This market has again been active and quite firm, above all for the near months. The demand from the trade has perhaps been quieter than last week, but this is partly due to the fact that export houses have been sparing in their offers of this variety. The results of the second picking are decidedly less than last year, and the supply of medium grades available will be rather limited. The fact that a large part of these qualities is finding its way to the depots of the *Credit Agricole d'Egypt*, as mentioned in our previous report, is another factor in the tightening of the position of these grades.

Spot. Ashmouni. The demand was well maintained, and covered the whole range from F.G.F. up. Offerings were fairly plentiful and spot differences remained steady.

Zagora. The bulk of the turnover consisted of F.G.F. to Good and Good. Low grades were rather more in favour, and for these spot differences were a good deal dearer; otherwise they remained unchanged from last week. High grade cotton is still not too plentiful.

Sakellaridis. The increased interest in this variety, reported in our last circular, continued, and only the restricted offering of good style cotton limited the turnover. Spot differences again showed a distinctly dearer tendency.

Giza 7. This was neglected apart from some demand for top grades. Spot differences are decidedly easier.

Other Varieties. Sakha 4 was in good demand, but scarce. Maarad for medium grades was also popular, with little offering.

There is hope of the 7 cents import duty on Egyptian cotton in the United States of America being abolished, as President Roosevelt has been given full power by Congress to abolish this tax by 50 per cent. to begin with.

Do not forget that

MAARAD COTTON

*is the Egyptian variety of fine
long staple which has the
highest yield.*

*Moreover it is cheaper than the
Sakel variety, in similar grades.*

*It is now tenderable against
Sakel futures.*



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**The Royal Agricultural Society
of Egypt**

POST OFFICE BOX 63

CAIRO

EXPORTS OF COTTON

Total	Name of Shipper	Gré	Gen	Fra					
441	Aghion Fr	830	—	111	—	—	—	—	—
14,057	Aghion, Ruquer & Co.	8,666	68	3,765	925	305	—	—	—
48,681	Ahmed A. Farghaly Bey	19,536	9,098	4,917	5,798	—	—	1,676	—
18,378	Alby, Albert & Co.	6,846	885	5,197	2,068	—	—	1,114	—
62,205	Alexandria Commercial Cy... .. .	26,671	4,775	2,307	8,294	4,895	4,660	—	—
40,988	Anderson, Clayton & Co.	8,763	6,830	6,380	3,038	800	5,217	—	—
16,208	Anglo Continental Cotton Cy.	7,914	—	3,724	410	—	500	—	—
8,960	Bibace & Co.	3,350	—	—	1	—	—	—	—
42,504	British Eg. Cotton Cy., Ltd.	33,516	—	1,707	496	1,470	1,385	—	—
4,800	Cambas, P. & Co.	1,090	1,700	1,550	350	—	—	—	—
90,259	Carver Bros. & Co., Ltd.	32,416	5,732	9,125	19,236	2,715	10,217	—	—
8,171	Casulli, M. S., & Co.	1,583	3,038	1,068	850	—	120	—	—
68,716	Choremi, Benachi & Co.	25,407	2,824	7,636	1,260	3,125	5,810	—	—
43,008	Cicurel & Barda	13,443	9,644	7,480	1,807	—	1,945	—	—
3,573	Comptoir Cottonnier d'Egypte	7,586	—	1,314	100	—	—	—	—
10,234	Cotton Cy. (W. F. Russi & Co.)	5,389	769	186	150	—	770	—	—
10,315	Daniel Pasquinelli & Co.	5,626	—	1,571	—	—	—	—	—
11,888	Eastern Export Cy. S.A.	7,573	420	1,251	—	—	1,400	—	—
23,362	Eg. Cotton Ginners & Exporters	10,465	1,435	801	2,360	—	102	—	—
49,502	Eg. Prod. Trad. Cy. S.A.	24,423	6,286	2,611	7,328	2,285	2,202	—	—
7,327	Elia & Bibace	6,057	—	—	1,400	—	—	—	—
506	Elia D., & Co.	506	—	—	—	—	—	—	—
8,082	Elia Bondi	2,532	—	—	500	—	—	—	—
18,654	Engel Adrien & Co.	4,780	2,465	2,274	875	—	350	—	—
24,779	Escher, W.	598	20,507	650	780	—	200	—	—
32,275	Fenderl & Co.	7,037	5,274	2,550	2,787	350	2,523	—	—
6,636	Francis, Lévy & Co.	5,045	—	286	886	—	—	—	—
21,041	Getty, W., & Co.	408	8,386	1,663	2,195	—	872	—	—
12,129	Gregusci C., & Co. (Anc. G. Frauger & Co.)	2,477	1,410	6,080	150	—	375	—	—
4,031	Hess, A., & Co.	1,404	2,007	—	365	—	—	—	—
26,084	Japan Cotton Trading Cy., Ltd.	13	60	—	—	24,296	—	—	—
5,176	Joakimoglou, C. Z., & Co.	1,569	1,256	610	544	—	—	—	—
7,419	Karam Frères	5,772	1,230	15	—	—	—	—	—
23,781	Kupper, H.	1,250	6,613	2,757	655	5,325	600	—	—
23,037	Lévy, Rossano & Co.	18,323	—	4,929	349	—	110	—	—
423	Mourai Brothers	—	—	423	—	—	—	—	—
16	National Bank of Egypt	16	—	—	—	—	—	—	—
95,455	Peel & Co., Ltd.	28,459	5,244	8,984	4,500	15,372	5,997	—	—
53,078	Pinto & Co.	11,061	5,340	8,668	8,720	200	1,438	—	—
32,892	Planta, J., & Co.	7,438	2,732	1,593	4,293	2,300	—	—	—
16,247	Psomadellis & Co.	12,240	210	609	1,108	—	300	—	—
35,467	Reinhart & Co.	2,688	6,187	6,646	1,830	7,710	133	—	—
3,499	Riches, Acheson & Co.	3,031	—	8	460	—	—	—	—
11,756	Rodocanachi & Co.	10,166	180	1,180	180	50	—	—	—
5,024	Rogers, E. P., & Co.	1,734	1,660	1,500	140	—	—	—	—
29,336	Rolo, J., & Co.	9,769	—	7,173	3,364	—	4,486	—	—
31,627	Salvago, C. M., & Co.	16,630	1,016	7,040	2,568	—	—	—	—
17,443	Société Cottonnière d'Egypte	12,439	910	1,194	—	—	—	—	—
49,293	Soc. Misr pr. l'Exp. du Coton (ex Lindemann)	4,451	12,886	1,793	511	10,678	5,066	—	—
19,203	Union Cotton Cy., of Alexandria	7,385	60	5,094	3,551	—	815	—	—
10,196	Yazgi, A. & W.	5,030	3,171	207	296	—	—	—	—
9,267	Zaizal Félix, M., & Co.	5,395	3,325	132	—	—	—	—	—
626	Others	324	15	2	68	—	—	—	—
<u>1,212,454</u>	<u>Total</u>	<u>445,239</u>	<u>146,381</u>	<u>138,056</u>	<u>96,939</u>	<u>51,874</u>	<u>60,383</u>	<u>—</u>	<u>—</u>

1,212,454 Bales equal 8,947,818 Cantars net.

N.B.—Besides the above exports 2,178 bales equal to 17,870 cantar- were exported through other ports by C. M. Salvago & Co.

FROM ALEXANDRIA, 1933-34.

Spain	Switzerland	India	Czechoslovakia	Poland	China	Austria	Canada	Hungary	Belgium	Sweden	Holland	Yokohama	Portugal	Greece, Syria and Turkey	Bulgaria	Other Countries
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
675	2,803	1,376	144	330	—	609	634	—	185	—	195	—	—	—	—	—
1,580	1,580	525	72	1,000	—	38	—	—	50	—	—	—	—	—	—	—
2,302	648	107	3,287	369	2,060	720	1,100	148	292	—	—	—	—	—	—	72
620	1,479	2,756	779	520	100	416	500	298	275	—	1,360	2,680	125	—	—	2
1,100	—	855	200	100	—	—	—	—	—	1,405	—	—	—	—	—	—
1,325	—	2,315	—	150	—	150	—	—	—	—	—	—	—	—	—	—
2,596	1,625	1,688	855	1,708	250	796	750	60	—	—	—	100	—	110	—	—
50	1,267	50	—	—	—	—	—	—	—	—	—	—	—	150	—	—
1,726	5,370	387	8,214	290	—	293	1,599	165	—	—	—	—	—	10	290	50
1,577	1,051	617	672	1,435	300	36	100	660	1,805	1,033	25	—	—	18	—	10
475	—	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—
130	1,224	50	30	—	—	360	—	—	—	—	—	—	—	—	—	—
1,237	—	520	492	35	25	—	—	—	634	175	—	—	—	600	—	—
450	60	—	—	—	—	50	100	—	30	—	—	—	—	54	—	—
183	180	7,283	—	—	—	—	—	—	90	150	90	—	51	147	—	25
1,416	240	300	99	—	—	—	—	—	2,010	—	—	—	120	—	—	—
100	—	—	50	—	—	100	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	80	780	—	400	300	50	—	675	—	250	—	—	—	95	50	—
292	881	—	500	83	—	288	—	—	—	—	—	—	—	—	—	—
1,541	1,935	150	866	6,590	—	—	300	60	135	15	—	100	—	42	—	—
—	—	200	36	83	—	100	—	—	—	—	—	—	—	—	—	—
2,185	2,017	20	393	630	—	—	175	—	30	—	—	—	—	487	145	85
580	120	477	—	100	—	—	—	860	—	—	—	—	—	—	—	—
—	—	120	—	—	—	—	—	—	—	—	35	—	—	100	—	—
—	—	45	—	—	1,670	—	—	—	—	—	—	—	—	—	—	—
—	—	215	477	35	—	—	—	245	—	—	205	—	—	20	—	—
—	—	211	—	—	—	41	—	—	—	150	—	—	—	—	—	—
220	5,496	50	15	1,170	1,000	180	—	15	150	—	60	—	250	75	—	—
—	—	3,675	—	248	—	—	—	—	249	—	—	—	108	48	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14,628	2,275	4,128	985	275	710	1,170	850	450	50	—	95	—	638	—	—	—
1,261	380	2,341	4,955	5,000	—	631	1,400	674	177	—	650	—	—	286	50	—
6,285	2,776	145	2,887	660	—	1,494	—	108	—	52	25	—	—	—	—	102
275	630	45	306	342	—	172	—	—	—	—	—	—	—	10	—	—
40	1,902	1,240	288	1,480	5,450	215	—	136	177	400	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	50	—	—	—	—	—	—	—	—	—	—	—
2,310	1,575	75	—	135	—	10	450	—	—	—	—	—	—	—	—	36
1,400	146	—	604	350	—	908	—	60	—	—	—	—	—	250	—	—
555	435	1,048	202	—	—	—	—	—	—	—	60	—	—	—	—	—
115	1,600	884	3,600	360	1,810	934	100	2,022	1,190	50	436	75	700	—	—	50
1,190	—	140	—	—	—	—	300	—	580	—	—	—	85	—	—	—
450	—	598	—	—	—	15	—	96	390	—	—	—	—	5	—	—
150	—	100	35	120	—	—	—	—	—	—	—	—	—	—	—	—
—	—	11	—	—	—	—	—	—	—	—	—	—	200	5	—	6
49,059	40,575	35,025	31,224	24,147	14,625	9,404	8,358	6,270	6,220	5,600	3,236	2,055	2,880	1,912	535	408

STOCK AT ALEXANDRIA, 31 AUGUST, 1934.

The Statistical Office at Minet-el-Bassal, branch office of the Ministry of Finance, has just communicated the following figures of the stock at Minet-el-Bassal which existed on August 31, 1934.

COTTON STOCK NET WEIGHT ON AUGUST 31st, 1934

	Cantars
Sakel	275,884.89
Ashmouni et Zagora	539,975.27
Pilion	18,316.47
Maarad	37,999.78
Nahda	2,428.97
Fouadi	9,936.96
Giza, No 3	12,598.73
Giza, No 7	29,631.86
Casuli and Botton Black	2,534.54
Sakha, No 4	33,916.03
Various	1,290.59
Scarto and Aitri	9,224.86
Total	973,738.97

Government cotton stock sold but not yet delivered, 214,106.79 cantars.



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to H.M. King Fouad I.

The Alexandria Insurance Company

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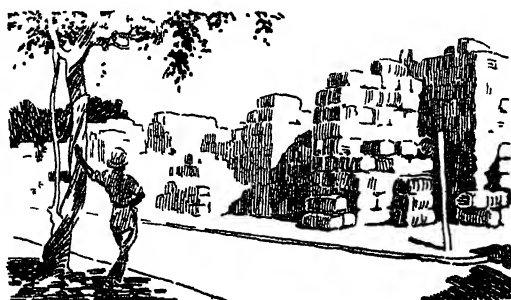
ALY BEY EMINE YEHIA
G. AGHION
ED. N. J. GOAR
E. KARAM

Col. E. T. PEEL, D.S.O., M.C.
E. PEGNA
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East Indian Cotton.

First Cotton Forecast, 1934-35.

This official forecast is based upon reports on the condition of the cotton crop at the end of July or early August. The reports do not, as will be seen from the detailed notes below, relate to the entire cotton area of India, but to only 77.5 per cent. of the total.

The area sown is at present estimated at 12,985,000 acres, as compared with 13,900,000 acres (revised) at the corresponding time of last year, or a decrease of 7 per cent. The decrease is, as will appear from the detailed figures below, attributed to decline in area in the Hyderabad State owing to unfavourable conditions at sowing time.

Weather conditions were not favourable for sowings in the important cotton-growing tracts, viz., Bombay and Hyderabad, owing to deficient rains, but elsewhere sowings were generally made under favourable conditions. The present condition of the crop is, on the whole, reported to be fair.

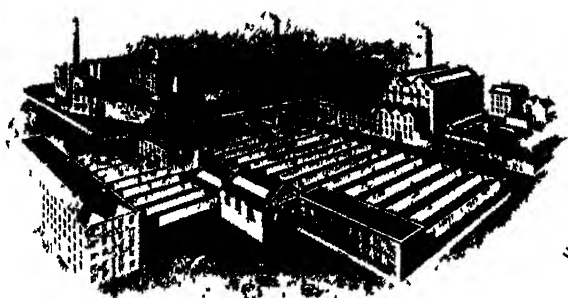
Detailed figures for the provinces and states are as follows :—

Provinces and States	Acres (thousands)		
	1934-35	1933-34	1932-33
Bombay-Deccan (including Indian States). ..	1,141	1,831	1,254
Central Provinces and Berar	4,303	4,221	4,494
Punjab (including Indian States)	2,442	2,297	1,955
Madras	198	176	211
United Provinces (including Rampur State) ..	805	513	442

SD.

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Provinces and States	Acres (thousands)		
	1934-35	1933-34	1932-33
Burma	386	341	297
Bengal (including Indian States)	73	75	74
Bihar and Orissa	43	44	64
Assam	34	35	36
Ajmer-Merwara	15	14	10
North-West Frontier Province	20	17	16
Delhi	2	2	2
Hyderabad	745	2,503	2,065
Central India	1,122	*1,072	941
Baroda	647	530	592
Gwalior	632	597	619
Rajputana	366	*367	332
Mysore	11	12	9
Total	<u>12,985</u>	<u>*13,999</u>	<u>13,413</u>

* Revised.

A statement showing the present estimate of area classified according to the recognized trade descriptions of cotton is given below:—

Description of Cotton	Acres (thousands)	
	1934-35	1933-34
Oomras—		
Khandesh	983	1,019
Central India	1,754	1,669*
Barsi and Nagar	362	1,675
Hyderabad-Gaorani	510	926
Berar	2,902	2,875
Central Provinces	1,401	1,346
Total	<u>7,912</u>	<u>9,510*</u>
Dholleras	<u>158</u>	<u>171</u>
Bengal-Sind—		
United Provinces	805	513
Rajputana	381	391*
Sind-Punjab	1,718	1,528
Others	48	49
Total	<u>2,952</u>	<u>2,471*</u>
American-Punjab	<u>746</u>	<u>788</u>
Broach	489	359
Coompta-Dharwars	17	18
Westerns and Northern	44	75
Cocapadas	17	29
Tinnevellies	142	117
Salems		
Cambodias		
Comillas, Burmas and other sorts	508	461
Grand Total	<u>12,985</u>	<u>13,999*</u>

* Revised.

Activities of the Indian Central Cotton Committee.

At the half-yearly meeting of the Indian Central Cotton Committee in Bombay, on August 29 last, the Chairman (Sir T. Vijayaraghavacharya) alluded to the Committee's policy of encouraging replacement of short-staple cottons by medium-staple cottons and the steady progress that had been made towards the realization of its efforts in that direction. Proceeding, the President referred to the activities of the Committee in the matter of extension of the area under "Verum" cotton in the Central Provinces and the developing of wider markets for Indian cottons, which had brought to the front the old question of the licensing of gins and presses as an effective solution of the evil practices now in existence in the cotton industry.

The question of licensing of gins and presses had been considered by the Committee at its August, 1933, meeting, and in accordance with the resolution passed thereon, the Government of India were requested to provide in the Cotton Ginning and Pressing Factories Act for the licensing of gins and presses, a clause which would be made operative in each province with the approval of the local legislature. The Committee received in March last a representation from about forty leading cotton merchants and firms in Bombay, drawing attention to the malpractice of watering of cotton, and suggesting the amendment of the Cotton Ginning and Pressing Factories Act for the introduction of a system of licensing of gins and presses. Since no final orders had been received from the Government of India, the matter was again taken up for discussion at this meeting. There was a good deal of discussion on this subject, and the Committee adopted a resolution reminding the Government of India of the previous resolution and the dangerous increase in the evil of watering of cotton, which called for immediate action in the interests of Indian cotton.

The development of long-staple cotton in the Barrage areas of Sind calls for co-ordinated effort, including legislation, if necessary, intensive seed supply organization and improved marketing organization suitable to local conditions. Efforts are also called for in the direction of improved communications and ginning factory facilities in the proposed block of 300,000 acres as speedily as possible. The resolution passed by the Special Sub-Committee appointed for the consideration of finding wider markets for Indian cotton on the above lines received the attention of the Government of Bombay, and they referred back to the Committee for its considered opinion the various points raised by the Chief Agricultural Officer in Sind. The subject received exhaustive consideration, and the Committee finally endorsed the above resolution of the Special Sub-Committee and approved of the proposals contained in the note of the Chief Agricultural Officer in Sind.

The examination of the possibility of using short-stapled Indian cottons for the manufacture of artificial silk was a subject on which there was general agreement.

Commercial Indian 1934 Cottons.

Extracted from "The Textile Manufacturer.")

THE Indian Central Cotton Committee Technological Laboratory, Matunga, Bombay, has for many years carried out spinning tests on a representative range of so-called "Standard" Indian cottons, which are cottons of known pedigree. The "Standard" cottons, from seed of known origin, represent about 15 per cent. of the crop, though their influence is much more than that figure indicates. More recently the Laboratory has also tested on somewhat similar lines commercial cottons submitted to it by the East India Cotton Association and the Bombay and Ahmedabad Millowners' Associations. The results of these tests are now being published in the form of Technological Circulars. A brief abstract from the data and figures supplied is given in the tables appended. The circulars give much more extensive data, including the reports for previous seasons of the same cotton. In some cases there is a considerable variation from season to season in spinning qualities. Agricultural details are also given.

It is the practice of the Laboratory to spin each sample to three counts. In the yarn table herewith, however, only one set of results is given, not being necessarily the highest counts. The cotton is usually passed through the lattice feeder, Crighton opener, hopper scutcher (three times), card, two heads of drawing, inter, rover, and spun from single-hank roving in ring frames. The usual spindle speed is 9,500 r.p.m. The ring frame draft is between 5 and 7, the diameter of front roller $\frac{3}{4}$ in., and the rings 1½ ins. diameter. The yarn breakages are the number of breakages per 100 spindles per hour. The temperature of the spinning room is 88 deg. or 90 deg. Fah. and the relative humidity 68 per cent. to 80 per cent., and the relative humidity for the testing room 68 per cent. to 80 per cent.

As regards evenness, a lower class number means a more even yarn. In the circulars hallistic test results are also given.

TABLE I—COMMERCIAL PARTICULARS

Cotton	Contract Valued Under	Class	Colour	Staple in	Strength	Regularity	Value On or Off Basis Rs
127 Surat 1027 A.L.F.	Broach	Superfine	White	15/16	Fair	Fair	+70
128 Hagari I.	Broach	Ex. Super.	White	7/8	Fair	Fair	+55
129 Cambodia Co. 2	Broach	Fine	Creamy	13/16	Fair	Fair	+40
130 Gadag I.	Broach	Fine	White	13/16	Fair	Fair	+30
131 Surat	Broach	Superfine	White	31/32	Good	Very even	+70
132 Farm Westerns.	Broach	Superfine	Whitish	7/8	Good	Regular	+40
133 Kumpta	Broach	F.G. to Fine	Greyish	3/4	Good	Regular	+22
134 Jagadia	Broach	Fine/S.F.	White	15/16	Good	Regular	+70
136 Dholeras	Broach NC 2	F.G. to Fine	White	13/16	Good	Regular	+5
137 Kalagin	Broach NC	F.G.	Grey	7/8	Good	Slightly irr.	-1
138 Westerns	Broach NC	F.G.	Brownish	3/4	Fair	Irregular	Par
139 Bailhongal	Broach	F.G.	Brownish	13/16	Fair	Fair	-15
140 Tirupur Cambod	Broach	F.G.	Creamy	31/32	Good	Good	+60
141 Broach	Broach	Strict fine	Slightly creamy	3/4	Fair	Fair	+10
142 Jagadia	Broach	Fine	Creamy-white	1/0	Good	Fair	+48
143 Bawla	Broach	Fine	White	15/16	Fair	Fair	-22
143 Kadi	Broach	Fine	White	15/16	Fair	Fair	+32
144 Karunganni	Broach	Fine	White	15/16	Good	Good	

TABLE II.—SPINNING MASTER'S REMARKS

		Colour	Cleanliness	Feel	Ginning	(Card Sliver	Weight 10 Flat Strips grams	Yarn
127	Surat 1027 A.L.F.	White, bright	Very C.	Silky bodied	Well-ginned	Clean	13.0	
128	Havari I.	White, bright	Very C.	Smooth bodied	Well-ginned	Clean	13.6	
129	Cambodia Co. 2	Creamy-white, bright	Clean	Good	Well-ginned	Clean	17.6	
130	Gadag I.	Creamy-white, bright	Clean	Good, smooth	Well-ginned	Clean	14.6	
131	Surat ..	White, bright	Leafy	Good, silky	Well-ginned	Almost C.	15.6	Clean, even
132	Farm Westerns	W. Creamy, fair, bright	Leafy	Good	Well-ginned	Fairly C.	16.3	
133	Kumtia ..	Creamy-white	Leafy	Good, smooth	Trifle knotted	Fairly C.	16.2	A little neppy and slubby
134	Jagadia	White-cream, bright	Fair	Good, soft	Well-ginned	Clean	15.9	
136	Dholcras	W-cream, fairly bright	V. Leafy	Good	Well-ginned	Fair, Cl.	20.2	Sl. neppy
137	Kalagin ..	C-white, fairly bright	V. Leafy and Stained	Good, soft	Well-ginned	Leafy	32.0	V. Leafy, somewhat uneven and neppy
138	Westerns ..	Creamy-white	V. Leafy	Good	Well-ginned	F. Leafy	23.7	Somewhat leafy, neppy and slubby
139	Bailhongal ..	Creamy-white	V. Leafy	Good	Slightly knotted	F. Leafy	19.5	Slubby
140	Tirupur (ambodia	Creamy-white, bright	C. but Stained	Good, smooth	Slightly knotted	Clean and Soft	24.7	Neppy and slubby
141	Broach ..	W. to creamy W., bright	Fairly C.	Good	Well-ginned	Clean	17.5	
142	Jagadia ..	White, bright	Fairly C.	Good, smooth	Well-ginned	Almost C.	22.6	Trifle neppy
143	Bawla ..	White-creamy	Leafy	Good, smooth	Well-ginned	Almost C.	19.2	Trifle slubby
143	Kadi ..	Creamy-white	V. Leafy	Good	Well-ginned	Almost C.	20.7	
144	Karaganni ..	W. to creamy W., bright	Fairly C.	Good, smooth	Well-ginned	Fairly C.	23.0	A little neppy and slubby

TABLE III.—YARN PARTICULARS

Cotton	Total Waste, %	Yarn Breakages, /100 Spls.	Actual Counts	Sea Strength Lbs.	Count Strength	Evenness Class	Neps per Yard	Actual Turns per in.
127 Surat 1027 A.L.F.	—	32	30.4	35.2	1,357	5	1.2	24.1
128 Hagar 1.	—	36	39.4	20.6	1,166	6	1.2	26.3
129 Cambodia Co. 2	—	17	25.1	51.3	1,442	5	3.5	21.1
130 Gadag 1.	—	23	28.9	50.9	1,471	4	1.0	21.1
131 Surat	11	13	29.5	51.4	1,516	5	1.2	20.9
132 Farm Westerns	20.6	30	29.1	49.3	1,435	5	1.5	21.1
133 Kumpta	23.4	32	23.4	63.4	1,464	5	1.8	19.0
134 Jagadia	14.8	20	29.5	53.6	1,581	5	1.5	21.2
136 Dholeras	28.0	52	20.0	62.3	1,252	4	2.0	18.5
137 Kalagin	35.2	145	20.3	47.3	960	5	2.0	13.1
138 Westerns	25.6	114	20.0	60.2	1,204	4	2.5	18.4
139 Bailhongal	23.5	36	23.1	64.1	1,461	4	1.0	19.3
140 Tirupur Cambodia	18.4	30	20.3	49.6	1,453	5	3.5	20.5
141 Broach	16.2	36	16.2	78.6	1,273	4	0.8	16.3
142 Jagadia	20.5	73	24.1	51.3	1,236	4	1.5	20.0
143 Bawla	18.8	24	33.5	30.2	1,313	6	2.5	22.8
143 Kadi	24.0	50	29.6	38.5	1,140	5	2.0	21.9
144 Karunganni	15.1	77	23.7	52.4	1,242	4	2.5	18.6

The Improvement of Cotton in Sind.

DURING the decade prior to the opening of the Lloyd Barrage Canals, the annual area under cotton cultivation in Sind averaged slightly over 300,000 acres, with an average outturn of approximately 100,000 bales. The area has been increased to approximately 500,000 acres during the past season, i.e., 1933, and it is confidently expected that the acreage under cotton will expand to 750,000 acres during the next few years.

FOUR MAIN CLASSES OF COTTON.

Four main classes of cotton are being dealt with, viz., (a) Sind Deshi, (b) Punjab-Americans, (c) Imported Americans, (d) Imported Egyptians.

Among each of these four main classes, the Department of Agriculture, Sind, has, by botanical selection, evolved improved strains which, on account of better yield, higher ginning percentage, or superior quality, are suitable for extension in general cultivation in the different cotton-growing tracts of the Barrage areas.

One of the most important characteristics for which the improved strains have been bred is vigour or hardiness which will enable them to withstand the rigours of the variable Sind climate. The other characteristics to which special attention has been given is the improvement of yield of *kopas* per acre and the maintenance of definite standards of staple length and ginning percentage. It has been found that, in general, the finer cottons are more susceptible to variations in climate and soil and to attack by various diseases, such as red leaf, jassids, etc., than the hardier and less superior types. However, botanical work has progressed so far that it has been found possible to combine a high yield with a staple of $1\frac{1}{8}$ ins. and a ginning outturn of 30 to 34 per cent. in certain improved strains.

RESULTS OBTAINED.

Medium Quality Cottons.—Among the American seed cottons so far tried in Sind the best results have been in Punjab-American

cottons, viz., 4F, 289F, and 285F varieties imported from the Punjab several years ago. The improved strains now established are definitely superior to the parental stock and quite distinct from the original material. These are:—

- (1) 4F--98.—It has a staple of $\frac{7}{8}$ in to $1\frac{1}{8}$ in. and spins 34's. It has a ginning percentage of 34 and gives a high yield. This improved strain has been found to be the most suitable type for cultivation in the new cotton-growing tracts being established on the right bank of the Indus.
- (2) 289F--1.—This improved strain has a staple of $1\frac{1}{8}$ ins. and spins 40's. It has a ginning percentage of 30 and, in normal years, is a very high yielder. It is a cotton well adapted to resist the ravages of red leaf, jassid attacks, and to withstand season variations of climate, etc.

These two strains are the "bread and butter" of the American seed cotton growers in the Barrage areas.

In addition to these two strains, one strain of 285-F cotton, viz., 285 F-2 has also been found to have desirable economic qualities in combination with silkiness. This strain is still being tested on a large field scale.

Fine Quality Cottons.—In its Report, the Indian Cotton Committee of 1919 stated, with reference to Sind, "Provided a permanent supply of water can be assured, we hold the view that there is no other part of India which offers such hopeful prospects of the successful cultivation of long-staple cotton." The work carried out at the Agricultural Research Station, Sakrand, supports this view. Two selected strains of Sea Island and Egyptian cottons, viz. (1) Sea Island 2-4 and (2) Boss III-16, have a staple length of $1\frac{1}{4}$ ins. to $1\frac{1}{2}$ ins., and are suitable for spinning 60/80's counts, and another selected Egyptian strain, viz., Ashmouni-37 has a staple length of $1\frac{1}{2}$ ins., and is suitable for spinning 50's counts. These improved varieties have been tested on a large field scale and are found to grow well in Sind. They are, however, peculiarly susceptible to white ant attack, especially on virgin lands. In consequence, their yield was only 8 to 12 maunds* *kapas*† per acre in comparison with 16 to 20 maunds obtained by improved Punjab-Americans grown side by side. Their staple, however, is fine and strong. They require better cultivation than Sind-American or *deshi*‡ cottons and are suited for the best soils only.

Sind Deshi Cotton.—This cotton has a special market of its own on account of its bright colour and rough feel. It is very hardy and resists variations in soil, climate and season. It can stand late sowing, and in point of yield is unsurpassed by any other cotton grown in Sind. The improved Sind Deshi strain, 27 W.N., evolved by the Agricultural Department, gives an early and abundant crop (about 16 to 20 per cent. greater outturn than ordinary Sind Deshi and a 4 to 5 per cent. higher ginning outturn, i.e., 38 to 39 per cent.). This improved strain is now the standard *deshi* cotton in Sind. Trade opinion in Karachi considers that the total *deshi* crop which can be profitably consumed should not

* Maund=82½ lbs., or 37·32 kilograms.

† *Kapas*—Seed cotton, unginned cotton.

‡ *Deshi*—Native cotton.

exceed 200,000 bales per annum. Any increase above this figure is likely to glut the limited market and result in reduced prices to the growers.

VOLKART BROS.' PRELIMINARY ESTIMATE OF THE INDIAN COTTON CROP FOR 1934-35.

Messrs. Volkart Bros. issued, on October 12 last, the following preliminary estimate of the Indian cotton crop for the season 1934-35, together with last season's corresponding figures:—

	1934-35	1933-34 (11 4 34)
Bengals		
Sind and Punjab	1,145,000	1,028,000
United Provinces and Rajputana . . .	252,000	226,000
American Seed		
Punjab-American	557,000	746,000
Sind-American	130,000	95,000
Omras	2,000,000	1,911,000
Broach-Surti	542,000	455,000
Dholera-Bhavnagar	600,000	425,000
Compta-Dharwar	180,000	178,000
Western and Northern Madras	271,000	237,000
Tinnevely-Cambodia	350,000	330,000
Cocanada	41,000	35,000
Comilla-Assam and Burma . . .	114,000	100,000
	<hr/>	<hr/>
Home consumption	6,182,000	5,766,000
	<hr/>	<hr/>
Total crop	750,000	750,000
	<hr/>	<hr/>
Total crop	6,932,000	6,516,000
Carry-over	1,200,000	1,072,000
	<hr/>	<hr/>
Total supply	8,132,000	7,588,000
	<hr/>	<hr/>

These figures are, of course, still subject to changes, as the crop is not yet assured. The Indian crop is, broadly speaking, at present in that stage of growth which the American crop attains at the beginning of July. It requires normal weather to realize the prospects embodied in the estimate.

Dryness or rain, heat or even frost may affect it right into February.

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CROP REPORT.

Messrs. Volkart Brothers, Winterthur, Switzerland, report as follows under the date of October 31, 1934:—

Although according to the very latest news 'cloudy weather' is reported from the Omra belt, the exceedingly dry spell has rather unfavourably influenced the growing crop. The steadiness of the Bombay market is chiefly due to this.

The Western Compta tracts have also not received the much wanted precipitation, so that conditions are causing some anxiety.

Unfortunately, the drought in the Karachi hinterland continues. It is to be feared that yield and quality will be adversely affected. It is probable that the basis for the staple varieties will become firmer.

COTTON STEM WEEVIL.

Cotton stem-weevil is a major pest in Southern India, although it was not unknown in parts of Punjab and Gujerat. It was first noticed in the south in 1919, and since that year it has been increasingly active in its ravages and has spread almost over the whole of the cotton tract in Southern India. It was noticed recently at Nandyal and had to cross only a small belt of the cotton tract to enter the Bombay Presidency, Hyderabad State and the Central Provinces. At Coimbatore the position is so bad that unless methods of checking the pest can be devised, both the plant-breeding work and the introduction of superior types of cotton will be greatly hampered.

Although exact figures giving the actual loss to crop from attacks of this insect are not available, observations made during the last two seasons show that 20 per cent. of the plants die as a result of the attack, while the incidence is as great as 80 per cent. in the case of irrigated and 60 per cent. in the case of rain-fed varieties.

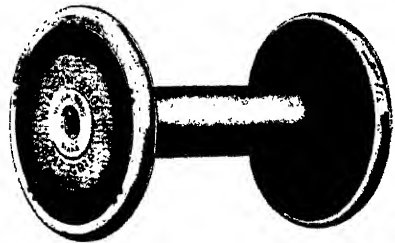
Even before the starting of the scheme it was recognized that the classical methods of entomological control, such as spraying, dusting, and biological control, etc., offered little hope of success. Owing, however, to the unfavourable environmental conditions, it is impossible to use it against the spread of the pest in question.

Work along two lines was expected to produce beneficial results. First, the suggestion was the production of early strains in cotton. This should enable a sufficiently long period of close season, which could be utilized to starve the insect, and the second was the production of resistant strains. The work is in progress.

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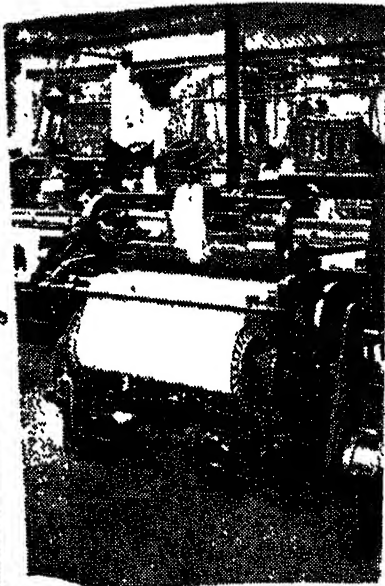
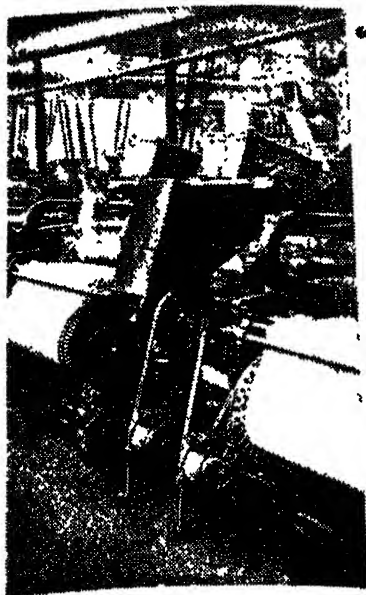
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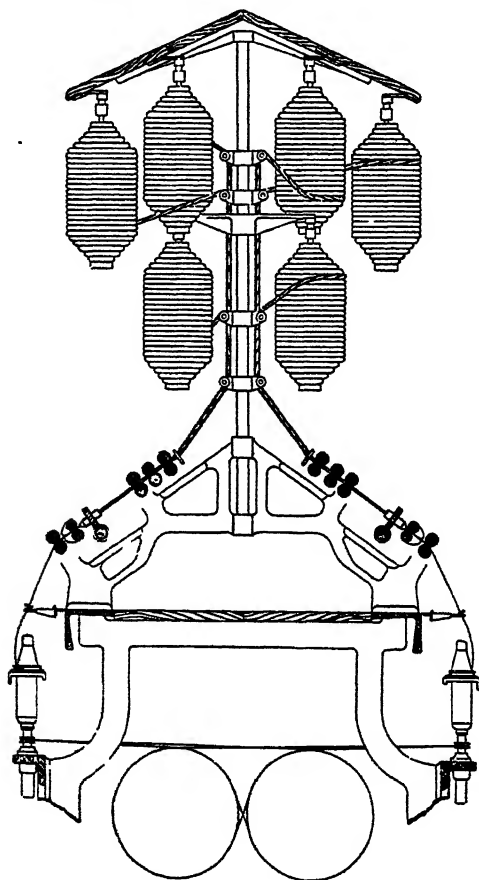
The Casablancas Compound Drafting Machine.

In THE INTERNATIONAL COTTON BULLETIN No. 28, published in July, 1929, we published an account of a new high-drafting system, originated by Messrs. Richard Hartmann, of Chemnitz, and Messrs. Hilturas Casablancas, of Barcelona. The latter firm have recently improved the original machine after a considerable amount of research work and practical mill tests. The new principle has been named "Compound Drafting."

Casablancas' compound drafting consists in subjecting the fibres to two consecutive drawing mechanisms during its passage through the machine. In between these two mechanisms a special device is introduced to keep the fibres gathered together. It will be apparent that very exceptionally high drafts are obtainable on this principle. Assuming that the first drafting mechanism performs a draft of, say, 6 only, and that there is a draft of 1.5 between this first mechanism and the second one, the material will enter the front drafting arrangement having received already a draft of $6 \times 1.5 = 9$. If the second drafting mechanism performs a draft of, say, 15, the total draft of the machine will be $9 \times 15 = 135$. More detailed figures of the possibilities of this compound drafting will follow later, but it is interesting to note that the seemingly huge total draft is arrived at by the combination or compounding of quite moderate drafts at each point. A further aspect, worthy also of special note, is the exceptionally slow speed at which the first drafting set works. It is a known fact that the slower the operation of drafting is performed, the better the result will be, and this is the reason why this first drafting mechanism can give, with very excellent results, higher drafts than would appear possible. The slowness of the speed just mentioned will be appreciated by considering that it may take two minutes for the back bottom roller to make one single revolution.

The first or back-drafting arrangement consists of three pairs of rollers similar to an ordinary drafting system. In the space between this first drafting set and the second one is a revolving funnel through which the fibres pass. These funnels put a certain amount of false twist on the material so as to rearrange the fibres

delivered by the first drafting set into a sufficiently compact form for presentation to the second set. This concentration of the fibres is necessary owing to the large bulk which enters the back of the machine and the considerable "spreading" which would occur in drafting the fibres from a heavy sliver. The front drafting arrangement consists merely of the normal Casablancas' apparatus and the top and bottom front rollers.



DRAFTS OBTAINABLE.

In order that the possibilities of the Casablancas' compound drafting machine may be fully grasped, the following figures give the range of work which can be performed on it.

Back drafting set, 5 to 15 draft.

Between back and front sets, 1.1 to 2.5 draft.

Front drafting set, 5 to 40 draft.

Therefore, the possible range of drafts is:—

Low— $5 \times 1.1 \times 5 = 27.5$ draft.

High— $15 \times 2.5 \times 40 = 1500$ draft.

For normal work, drafts of 50 to 400 may be used, the main factors governing the amount of draft to be performed being really the maximum weight of regular sliver or coarse slubbing which can be successfully produced from the available preparation machinery. Under working conditions, satisfactory yarn 100's counts has been spun direct from 0.25 hank sliver, that is, with a draft of 400. The following are perhaps the most suitable drafts to be adopted in actual practice:—

Indian cotton ...	...	...	...	...	Drafts up to 100
American cotton ...	...	...	...	...	„ 200
Egyptian cotton, carded ...	...	...	...	...	„ 300
Egyptian cotton, combed ...	...	...	...	...	„ 350
Sakel, combed ...	...	...	...	...	„ 400

The main advantage is, of course, the complete suppression of the three or four processes of speed frame. As regards the quality of the yarn produced by the new method, innumerable tests show this to be far better than that obtained in the ordinary way—a result which was certainly to be expected in view of the careful and adequate treatment to which the material is submitted during its transformation from sliver into yarn.

In the first machines of this kind made by Messrs. Hartmann, the question of roller weighting for the two drafting sets became a serious problem owing to the complication which it entailed. The advent of the Casablancas' system of spring loading of rollers, coupled with the automatic operating levers, at once eliminated all former complications, and the compound draft machine as now presented is a well-designed and extremely compact and efficient job. The automatic lever weighting gives very good results and allows for ready adjustment. Also the variation of pressure on a standard setting is less than 5 per cent., which means that a near approach to perfect roller weighting has been obtained. It would be very difficult to find roller weighting on any of the old systems to approach such uniformity. Incidentally, the saving in weight by the adoption of this new method in a machine of normal length is very considerable.

The mechanism for inserting the false twist also required careful consideration, and the original idea has now been developed into a special funnel which allows the material to be threaded through it with the greatest ease and simplicity. The false twist funnels are placed very close to the front drafting mechanism so as to deliver the material in the best possible way at that particular point. They are all mounted on a special frame provided with a traverse movement similar to that of the roving guide on an ordinary ring frame.

The question of conversion of existing ring frames to compound drafting has been investigated, and experimental work and trial installations of this kind have already been carried out. It is expected that compound drafting sets for adoption to ordinary machines will be shortly available on the market.

Controlled-Draft Roving.

A bottom roll with a concentric ring or "tongue" fitting into a top roll with a concentric groove is the basis of a new long-draft single-process roving system developed by Saco-Lowell Shops, 147, Milk Street, Boston. The groove serves to fold in the selvages of the sliver, thus counteracting the spreading apart and separating of the fibres, preventing the throwing off of lint, and brushing out a considerable amount of the small leaf and seed particles which ordinarily are carried through the roving operations.

As a result it becomes possible to produce direct from drawing sliver in one operation a roving sufficiently fine to permit the spinning of the more usual yarn numbers from double roving. The product of the new system is said to be cleaner than that produced by conventional roving methods and to be fully equal to the latter in all other particulars. The frame itself is simple and rugged in construction. It is said to be durable, easy to operate, and to require no unusual cleaning. The drafting equipment can be applied to conventional roving frames.

The sliver, instead of being fed to the drafting rolls through the usual round trumpet of the traverse motion, is passed through a "forming" trumpet designed to condense the stock into a ribbon of uniform density and cross-section in order that the back-rolls may grip it uniformly across its whole width. The back rolls consist of a specially fluted metallic bottom roll and a similarly fluted metallic-shell top roll. The fluting is designed to preclude all slippage, and this fact, in combination with the uniform flat sliver and very slow speed of the rolls (one-quarter to one-sixth that usual on slubber back rolls) is reported to give an accurate control of the fibres as the drafting is begun. The first drafting unit is completed by another set of similar rolls. The total draft of this back set is equal to the total draft of an ordinary slubber.

The back rolls of the second drafting element embody the tongue-and-groove combination already referred to. This pair, known as the "folding" rolls, is at a lower level. The difference in level permits the sliver to be folded in by the edges of the groove before the cotton comes in contact with the tongue, thus giving a gentle and gradual folding action which is completed before the nip is reached. The second and final draft takes place between these folding rolls and the front rolls, which are of the regular roving type with fluted bottom rolls and cork- or leather-covered top roll. The draft in the second set of rolls is well in excess of the total draft of an ordinary roving frame.

On 1-in cotton the total draft of the machine ranges from 10 to 30, and, of course, on better than 1-in staple considerably higher draft is practical. Since the sliver supply to each spindle is 12 to 14 lbs, piecings due to creeling—a common cause of bunches—are largely eliminated. For instance, the bobbin of an 8×4 frame carries 15 ozs of cotton, therefore one creeling gives 13 to 15 doffs.

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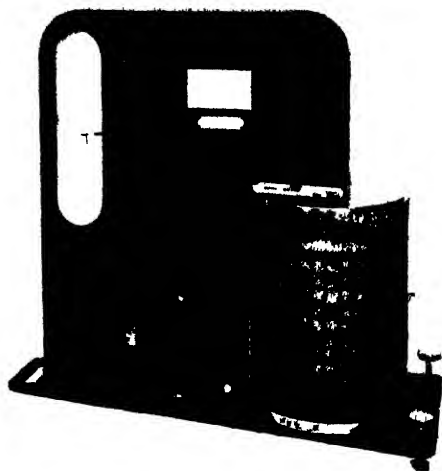
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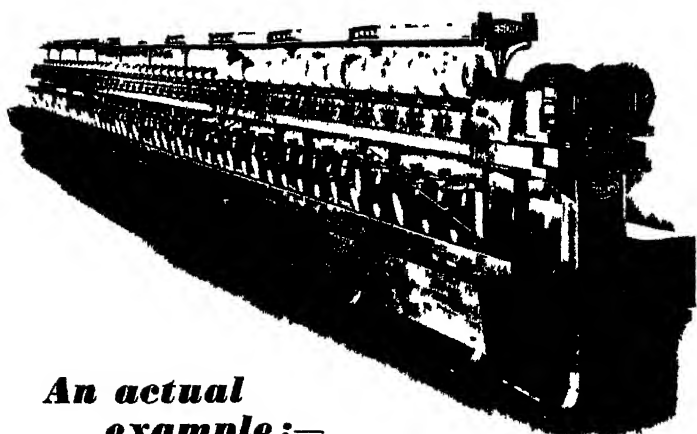
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to process," states the latest issue of the Saco-Lowell *Bulletin*, "we have been able to dispense with the use of twist entirely—right up to the point where the roving leaves the front rolls. The advantages of drafting an untwisted sliver are well known." Those interested in this process are advised to communicate with the Saco-Lowell Shops, Boston, Mass.

Cotton Carding Tests.

The Textile World published in its August, 1934, issue an article by Carl D. Brandt, of the Texas Technological College, Lubbock, which endeavours to prove that cotton cards do not remove short fibre.

The cotton used in this carding experiment was locally grown and gathered by "snapping." It was of the Acala variety, fully matured and carefully ginned. The ginned sample was graded and stapled by three different cotton merchants. All were in agreement as to grade, calling it Middling Spotted. Two called the staple $1\frac{1}{8}$ in.; and one $\frac{7}{8}$ in. This experiment covers only one specific set of carding conditions.

It is interesting to compare the staple diagram of this commercial bale with the diagram made from a Government standard for $1\frac{1}{8}$ -in. staple. It will be noted in the Government sample that the fibre is very uniform in length, while, on the other hand, the test sample slopes steeply from $1\frac{1}{4}$ ins. down to about $\frac{1}{2}$ in. The ideal diagram from the manufacturers' point of view would be one in which the fibre tips formed a horizontal line parallel to the base line. With such a cotton, if it were obtainable, much smoother-running work and a more uniform product would be possible. An analysis of the two staple diagrams shows their composition. See accompanying table.

The card has very definite functions to perform, of which the chief three are: (1) disentangling bunches of fibre, (2) removing foreign matter, and (3) forming a strand or sliver. Together with these, it is sometimes claimed that carding parallels the fibre and also removes the short staple. As to the first, any straightening that is done between the cylinder and flats is undone at the point of transfer from the cylinder to the doffer. The web as it comes from the doffer owes its strength to the fact that the fibres are entangled and not parallel; and that, too, is the condition of the fibre in the sliver produced. With regard to the second claim, the photograph of the staple diagrams shows to what extent short fibres are removed.

The surface speed of the various card parts influences the quality of work done to some extent. High lick-in speeds, which might provide better combing action and increase the waste percentage under the mote knives, are claimed by some to produce weaker yarns. Also, the draft should be held within reasonable limits. It is generally conceded that a draft of about 100 represents an average value. Production likewise should not be too

high if quality work is desired. An approximate limit might be set at 125 lbs per day.

The important factors that actually determine the character and amount of waste removed and the quality of work done are the settings of the various card parts and the condition of the surface coverings. While each carder has his own ideas as to settings, the ones used during this test might be assumed to be representative of general practice. They are: Feed plate to licker-in, 010 in, mote knives, 010 in, licker-in to cylinder, 007 in, back plate, 022-020 in, flats to cylinder, 010 in, front plate, 022-034 in, doffer to cylinder, 007 in, and cylinder screen, 1-034 in. A 1 $\frac{1}{2}$ -oz lap was run, and a 50-grain sliver produced. The cylinder speed was 165 r p m, and the licker-in speed, 461 r p m.

Under the foregoing operating conditions the waste removed during the processing of the test lot amounted to a total of 7.2 per cent, made up as follows: Flat strips, .7 per cent, cylinder and doffer strips, .8 per cent, droppings, 2.6 per cent, and sweeps and fly, .1 per cent—giving a total of 7.2 per cent. This total is somewhat high, but it is due to the character of the waste that was contained in the bale. The droppings were for the most part heavy particles from the boll and plant stem, and the 2.6 per cent is somewhat above a normal amount. Also, the cylinder and doffer were stripped every three hours, as it was found that at the end of this period the web showed signs of poor work. The average weight of the waste removed per flat ran very close to 20 grains.

An analysis of the different staple diagrams of the waste removed during carding sheds some light on the type of work that the card does.

From the accompanying table it will be seen that neither the "flat strips" nor the "cylinder and doffer strips" contained any appreciable greater proportion of fibre under $\frac{1}{2}$ in than did the original sample. Therefore there was little apparent selection and removal of short fibre. The staple contained in the "droppings" were all under $\frac{1}{2}$ in, but the amount of fibre in this waste was not very great. One fact quite noticeable is that in the waste removed there was more very short fibre than was present in the cotton being processed. There can be but one explanation for this, and that is that the carding process itself was injurious to the staple to some extent. This is evident, as a staple diagram of the stock after carding showed fully as much short staple as before carding in spite of the fact that a great deal had been removed as waste.

ANALYSES OF STAPLE DIAGRAMS

Staple length	Gov Standard per cent	No 1 Stock being Processed per cent	No 2 Flat Strips per cent	No 3 Cylinder and Doffer Strips per cent	No 4 Droppings per cent
1 in	0	37	22	32	—
$\frac{3}{4}$ to 1 in	88	26	32	35	—
$\frac{1}{2}$ to $\frac{3}{4}$ in	11	26	30	19	—
$\frac{1}{4}$ in	1	11	16	14	100
	100	100	100	100	100

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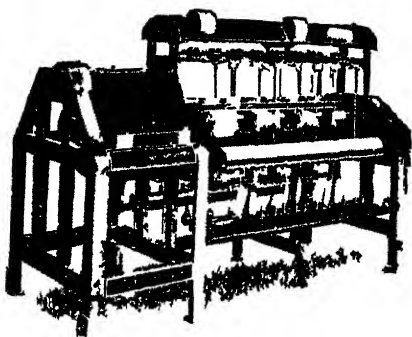
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The speed of winding drums and traverse rods can be independently changed without alteration to the driving pulley.

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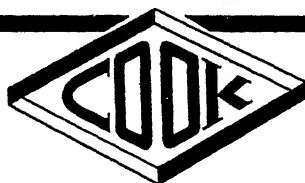
An Improved Stop Motion immediately operates when the thread breaks or terminates.

Movable Blades automatically take the thread out of the reciprocating guide when a stoppage of the spool occurs.



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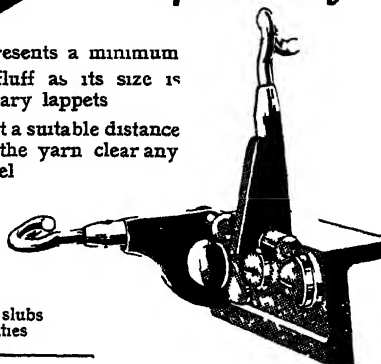
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"SPEAR" LAPPET presents a minimum surface for the gathering of fly and fluff as its size is approximately one sixth less than ordinary lappets.

The two spears in the Thread Guide set at a suitable distance from that part of the eye contacted by the yarn clear any slubs or impurities coming from the creel.

The Spears
in the
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clear the yarn of slubs
and other impurities



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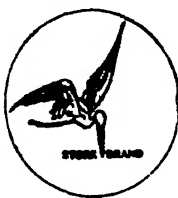
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*All kinds of Machinery for Cotton
Spinning and Doubling Mills.*

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Switzerland.

COTTON FIBRE RECLAIMED.

Despite the high efficiency which cotton blowing room machinery has attained during recent years impurities, comprising sand, dirt, particles of seed, leaf, etc., are passed through the opener and scutcher to the cards and in some cases are present in the spun yarn.

In the various stages of opening cotton, the bulk of the above impurities are ejected, but it is generally recognized by spinners that in order to obtain a sufficiently clean cotton a comparatively high percentage of good fibre is sacrificed. This good fibre is passed through the dirt bar openings with the impurities. A new apparatus which has just now been brought out reclaims this good fibre and returns it to the cotton conveying pipe, which supplies the opener.

The apparatus has been evolved by close collaboration between the patentees, Messrs Wild and Quinn, and the sole makers Messrs Brooks & Doxey Ltd.

Briefly, the apparatus consists of a travelling belt running in a defined position under the opener bars, to convey the droppings to a pair of feed rollers.

These rollers deposit the waste into the path of a cylinder covered with saw-tooth wire which, working in conjunction with a mote knife, treat the droppings in detail and separate the good fibre from the trash. The latter drops into a suitable receptacle below the cylinder and the good fibres are taken back into the flow of clean cotton in the conveying pipe by means of a mouth-piece.

The outside view of the apparatus illustrates the reclaimer attached to Messrs Brooks & Doxey's well-known patent opener cleaner, it can, however, be applied to any make of opener. The makers will be pleased to demonstrate the efficiency of the reclaimer to interested parties, preferably by using waste from clients' own machines.

SPINNING TESTS ON PIMA-SAKEL.

The International Cotton Federation received, some time ago, a sample of a new variety of cotton from the U.S. Department of Agriculture, with a request that the various affiliated associations should examine the cotton and express an opinion on its spinning value. The Shirley Institute kindly consented to undertake a spinning test on a 10-lb sample, and the result of the test is given overleaf.

This new variety is a cross between American Pima and Egyptian Sakel, and is grown under irrigation in Arizona. Only 170 acres of this cotton were grown last year, but it is hoped to cultivate at least 1,000 acres of this new growth this season.

THE BRITISH COTTON INDUSTRY RESEARCH ASSOCIATION.

Cotton	Length Characters				Inmaturity		Mean		Remarks									
	Effective Length (32nds in.)	% Short	% Dispersed	% Hairs	% Normal Hairs	% Dead Hairs	Hair Weight per sq. in. (10.5 magn.)	Hair Weight per sq. in. (10.5 magn.)										
Pima x Sakel Hybrid ..	29.4	27	24	53	13	132			The sample is somewhat longer, of rather lower maturity—as indicated by the lower percentage of normal hairs, and higher percentage of dead hairs in the maturity 0.4, and of slightly lower hair-weight per centimetre, than the sample of Egyptian Sakel Gedid with which it is compared.									
Egyptian Sakel Gedid ..	28.6	23	16	62	4	142												
—																		
Cotton	Sample Weight (lb.)	Waste %				Bls. per sp.	Lea		Lea	Coef. of Variation	Strength (lb.)	Count	Windings per 1,000 yds.	Work of Kupture (in. lb.)		Ballistic Tests		Highest Standard Count
		Yarn No.*	Twist Factor	Blow-room	Card		Comber	Actual Strength						Count	Actual Count	per Lea	Count		Count	W. of K.	W. of K.
100's Spinnings :																		
Pima x Sakel Hybrid ..	41	194	3.5	1.5	7.9	20.0	4	100.0	21.1	2.9	7.4	2129	1	101.2	30.0	1.7	5.5	90-95
Egyptian Sakel Gedid ..	0	100	3.5	0.7	6.5	20.0	28	97.0	22.6	2.4	8.3	2213	3	97.1	31.0	2.0	10.4	98-100
150's Spinnings :																		
Pima x Sakel Hybrid ..	41	116	8.5	1.5	7.9	20.0	17	140.6	9.8	1.8	8.3	1137	—	147.4	18.1	3.2	17.3	2608
Egyptian Sakel Gedid ..	9	75	3.5	0.7	6.5	20.0	85	156.6	8.8	1.2	9.3	1373	—	157.0	11.9	4.5	8.2	2339
180's Spinnings :																		
Pima x Sakel Hybrid ..	41	2	8.5	1.5	7.9	20.0	36	178.9	6.2	3.3	9.5	1100	—	178.9	12.8	2.5	12.5	2290
* In any "Yarn No." the first number denotes the nominal count ; c = combed ; R = ring yarn ; M = mule yarn ; the number following R or M is merely a serial number. Thus, 60. cR, 92 means 60's combed ring yarn, No. 92																		

* In any "Yarn No." the first number denotes the nominal count; c = combed; R = ring yarn; M = mule yarn; the number following R or M is merely a serial number. Thus, 60. cR. 92 means 60's combed ring yarn, No. 92.

GENERAL REMARKS.—Processing was normal, and spinning was good in 100's and 150's; breakages were somewhat more frequent when spinning 180's, but in view of the fact that a ring-frame was used for all three counts, the performance of the sample can be considered good.

In strength, the 100's and 150's yarns compare favourably with those spun from the Egyptian Sakel, being slightly more neppy and less regular. In appearance, the yarns from the Pima x Sakel sample are inferior to those from the Egyptian Sakel, being slightly more neppy and less regular.

Thus, on the whole, the Pima x Sakel sample is slightly inferior in spinning quality to the Egyptian Sakel Gedid with which it is compared.

EFFECT OF WARP TENSION ON RAYON FABRICS.

The German edition of the *Melliand Textilberichte* No. 10 contains an article by Friedrich Köhler, Dipl. Eng., in which he states that more attention must be paid to the tension of the warp, in order to produce rayon fabrics as free from faults as possible. Too high tension leads to more thread breakage, while if the tension be too low the result will be that the harness does not work quietly and the filling will cause trouble. In order to keep a check upon the uniformity of the warp tension and always to be in a position to say what the tension is, the author recommends a simple measuring instrument, which he describes

NEW COTTON PICKER.

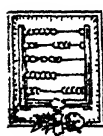
According to an American contemporary, still another cotton-picking machine has been patented in U.S.A. The new machine, it is claimed, can pick 100 acres an hour and do the work of 100 labourers. This machine is the invention of J. and M. Rust, of Memphis.

Since the Civil War many inventions for picking cotton have been patented, but they have not been a complete success. More than 700 patent applications on cotton-picking devices are on file in Washington.

The Rust Brothers' machine has a rapidly rotating smooth steel spindle that is moistened as it enters the open boll. The moistened spindle has no hooks or claws; it twists the cotton out of the bolls.

John Rust stated he obtained the idea for their picker while watching an old negro woman spin a thread of cotton on a plantation spinning-wheel.





INTERNATIONAL COTTON STATISTICS



The present tabulation is the **FINAL** result of the Census of Cotton Consumption in the Cotton Spinning Mills of the World for the year ended 31st July, 1934, and of Cotton Mill Stocks on that date. It should be borne in mind that the figures published herewith relate to raw cotton only, and do not contain linters or waste cotton of any kind whatsoever.

We regret to state that no returns have been received from Russia since July, 1930, in spite of our endeavours to re-establish connection with the Russian authorities by various means. Rough estimates for this country have had to be made from trade sources, and are included in the present tabulation.

The total World's Cotton Mill Consumption for the **YEAR** ended 31st July, 1934, compared with that of the previous year, is as follows :—

	31st July 1934	31st July 1933	Increase or Decrease over previous year
	bales	bales	bales
American Cotton ..	13,535,000	14,170,000	— 635,000
East Indian Cotton ..	4,772,000	4,220,000	+ 552,000
Egyptian Cotton ..	1,108,000	934,000	+ 174,000
Sundries	5,697,000	5,028,000	+ 669,000
All kinds of Cotton ..	25,112,000	24,352,000	+ 760,000

The total World's Cotton Mill Stocks on 31st July, 1934, according to Continental distribution, were as follows :—

American Cotton :

Europe ..	679,000 bales against 783,000 bales on 31st July, 1933.
Asia	373,000 " " 407,000 " " " "
America ..	1,244,000 " " 1,351,000 " " " "

The total World's Mill Stocks of American Cotton on 31st July, 1934, were 2,307,000 bales, as against 2,558,000 bales in the year 1933, and 2,543,000 in 1932.

East Indian Cotton :

Europe ..	363,000 bales against 259,000 bales on 31st July, 1933.
Asia	1,282,000 " " 1,259,000 " " " "

Altogether the World's Mill Stocks of East Indian Cotton were 1,655,000 bales against 1,527,000 twelve months ago, and 1,031,000 two years ago.

Egyptian Cotton :

Europe ..	204,000 bales against 184,000 bales on 31st July, 1933.
Asia	37,000 " " 29,000 " " " "
America ..	27,000 " " 18,000 " " " "

The total World's Mill Stocks of Egyptian Cotton were 272,000 bales against 235,000 bales twelve months ago, and 228,000 two years ago.

Sundry Cottons :

Europe ..	543,000	bales against	303,000	bales on July 31st, 1933.
Asia ..	363,000	"	283,000	" " " "
America ..	125,000	"	87,000	" " " "

The Total World's Mill Stocks of all kinds of cotton on July 31st, 1934, were 3,337,000 bales against 5,050,000 bales on July 31st, 1933, and 4,462,000 two years ago.

The World's Total Spindles on July 31st, 1934, showed 156,878,000 as against 157,718,000 in Jan. last, and 157,755,000 twelve months ago. The World's Consumption per thousand spindles shows an increase from 79.47 bales in Jan., 1934, to 80.18 bales in July, 1934.

N. S. PEARSE,

General Secretary.

SHORT-TIME TABLE

The spindle-hours stopped by the mills reporting, when worked out over the whole industry of each country, indicate the following stoppages in weeks of 48 hours, for the industries in the countries tabulated below :—

	Half-year ending	
	July 31st, 1934	Jan. 31st, 1934
Great Britain ..	8.14*	7.38*
Germany ..	None, on the average	1.36
France ..	6.99†	5.21
Italy ..	7.70	5.37
Czecho-Slovakia ..	9.20	12.13
Belgium ..	7.36	9.09
Poland ..	0.45	1.05
Switzerland ..	3.48	4.05
Holland ..	4.85	6.09
Austria ..	6.55	6.65
Sweden ..	0.51	1.39
Portugal ..	—	0.08
Finland ..	None	1.02
Hungary ..	2.93	—
Denmark ..	0.33	—
Norway ..	3.41	1.91
Japan ..	9.61†	9.72†
China ..	10.73**	8.71**
Canada ..	1.94	5.63
Mexico ..	1.40	2.88
Brazil ..	2.01	2.64
Yugo Slavia ..	0.55	—

U.S.A. In July, 1934, 24,418,000 spindles were active out of a total of 30,938,000, as compared with 25,653,000 active last January

† The stoppage of the American Section amounted to 9.96 (9.53) weeks, and that of the Egyptian Section to 5.81 (4.16) weeks of 48 hours. There were 63 (71) firms with 3,776,343 (4,217,612) spindles in the American Section completely stopped during the period under review. In the Egyptian Section 7 (11) firms with 620,544 (813,812) spindles were completely stopped during the six months. Firms with 114,972 (187,524) spindles have closed down indefinitely during the period under review.

† This figure represents working weeks of 48 hours. The general working week in Japan is 120 hours. Calculated in Japanese working weeks the stoppage is equal to 3.85 (3.89) weeks for the last six months under review.

** The working week in China is 132 hours. Calculated in Chinese working weeks the stoppage is equal to 3.90 (3.17) weeks for the period under review.

† France: 1,041,890 spindles have been completely stopped during the past six months

(Figures in brackets and in *italic* refer to previous six months.)

Estimated TOTAL WORLD'S COTTON MILL CON-
with previous figures for comparison, on basis of Spinners'

COUNTRIES	IN THOUSANDS OF ACTUAL BALES (regardless of weight)							
	AMERICAN				EAST INDIAN			
	Half-year ending				Half-year ending			
	July 31 1934	Jan. 31 1934 *	July 31 1933	July 31 1932	July 31 1934	Jan. 31 1934	July 31 1933	July 31 1932
EUROPE :—								
(1) Great Britain ..	690	771	735	733	125	109	70	53
(2) France	346	403	398	263	92	102	38	62
(3) Germany	513	543	490	426	103	87	45	48
(4) Russia†	25	35	30	—	10	23	20	25
(5) Italy	305	331	358	300	71	77	57	50
(6) Czecho-Slovakia ..	114	103	102	127	17	14	9	11
(7) Belgium	68	80	81	68	39	45	39	35
(8) Spain	118	170	144	160	34	26	23	21
(9) Poland	106	121	112	87	11	12	1	4
(10) Switzerland	22	26	25	21	5	5	4	3
(11) Holland	62	63	62	55	18	17	11	10
(12) Austria	42	45	31	40	7	8	4	4
(13) Sweden	59	57	47	51	1	—	—	1
(14) Portugal	21	28	24	23	—	—	1	—
(15) Finland	23	21	14	15	—	—	—	—
(16) Hungary	28	34	36	15	5	4	1	2
(17) *Yugo Slavia	20	—	—	—	11	—	—	—
(18) Denmark	16	17	15	11	—	—	—	—
(19) Norway	5	6	5	5	—	—	—	—
Europe Total ..	2,583	2,854	2,709	2,400	549	529	373	329
ASIA :								
(1) India	14	26	46	121	1,123	1,106	1,114	1,121
(2) Japan	900	881	873	938	619	605	558	398
(3) China	176	241	291	451	88	97	98	111
Asia Total ..	1,090	1,148	1,210	1,505	1,830	1,808	1,770	1,630
AMERICA :								
(1) U.S.A.	2,707	2,847	3,254	2,179	9	5	5	9
(2) Canada	109	110	89	84	—	—	—	—
(3) Mexico	3	16	17	—	—	—	—	—
(4) Brazil	—	—	—	—	—	—	—	—
America Total ..	2,819	2,973	3,360	2,263	9	5	5	9
Other Countries ..	21	47	44	34	15	27	13	8
HALF-YEAR'S TOTAL ..	6,513	7,022	7,323	6,202	2,403	2,369	2,161	1,976

† No returns from Russia. Figures for this country are estimated only.

* Formerly included in Other Countries.

**SUMPTION for the Half-year ending 31st July, 1934,
returns made to the International Cotton Federation.**

IN THOUSANDS OF ACTUAL BALES (regardless of weight)											
EGYPTIAN				SUNDRIES				TOTAL			
Half-year ending				Half-year ending				Half-year ending			
July 31 1934	Jan. 31 1934	July 31 1933	July 31 1932	July 31 1934	Jan. 31 1934	July 31 1933	July 31 1932	July 31 1934	Jan. 31 1934	July 31 1933	July 31 1932
177	189	158	149	206	203	205	239	1,196	1,272	1,168	1,174
57	62	58	44	38	34	28	27	533	601	572	396
83	63	59	50	78	54	39	49	777	747	633	573
—	—	—	35	1,032	760	750	740	1,067	818	800	800
40	37	34	32	5	8	7	15	421	453	456	397
16	14	9	11	9	7	6	10	156	138	126	159
3	2	3	2	24	18	18	22	134	145	141	127
23	26	20	25	6	3	5	11	181	225	192	217
15	10	10	8	2	2	5	3	134	145	128	102
19	16	15	16	2	1	1	2	48	48	45	42
—	—	—	—	15	4	3	4	95	84	76	69
6	5	4	3	4	4	3	5	59	62	42	52
2	2	1	1	—	—	—	—	62	59	48	53
2	2	2	2	16	5	7	9	39	35	34	34
1	1	1	—	—	—	—	—	24	22	15	15
5	2	3	10	1	2	—	1	39	42	40	28
1	—	—	—	1	—	—	—	33	—	—	—
—	—	—	—	1	1	1	1	17	18	16	12
—	—	—	—	—	—	—	—	5	6	5	5
450	431	377	388	1,440	1,106	1,078	1,138	5,022	4,920	4,537	4,255
23	19	14	37	96	107	89	88	1,256	1,258	1,263	1,367
30	28	28	26	121	68	53	16	1,870	1,582	1,512	1,873
9	10	7	3	920	842	856	476	1,193	1,190	1,252	1,041
62	57	49	66	1,137	1,017	998	580	4,119	4,030	4,027	3,781
32	37	31	27	15	18	19	11	2,763	2,907	3,309	2,226
5	5	2	3	—	—	—	—	114	115	91	87
1	1	1	—	94	80	70	59	98	97	88	59
—	—	—	—	280	252	224	223	280	252	224	223
38	43	34	30	389	350	313	293	3,255	3,371	3,712	2,595
14	13	12	9	132	126	125	110	182	213	194	161
564	544	472	493	3,098	2,599	2,514	2,121	12,578	12,534	12,470	10,792

Estimated TOTAL WORLD'S COTTON MILL STOCKS comparison on basis of Spinners' returns

IN THOUSANDS OF ACTUAL BALES
(regardless of weight)

COUNTRIES	AMERICAN				EAST INDIAN			
	Half year ending				Half-year ending			
	July 31 1934	Jan 31 1934	July 31 1933	July 31 1932	July 31 1934	Jan 31 1934	July 31 1933	July 31 1932
EUROPE								
(1) Great Britain ..	56	64	73	63	56	23	34	12
(2) France ..	104	147	145	132	103	69	89	36
(3) Germany ..	120	175	176	129	49	46	23	33
(4) Russia† ..	3	10	5	—	4	5	5	5
(5) Italy ..	140	192	155	149	55	37	39	19
(6) Czecho-Slovakia ..	40	44	37	34	8	7	8	3
(7) Belgium ..	32	38	39	43	39	35	33	25
(8) Spain ..	17	19	31	22	5	5	5	3
(9) Poland ..	12	14	11	14	4	4	1	1
(10) Switzerland ..	20	23	22	17	10	7	7	3
(11) Holland ..	42	46	37	41	16	12	14	11
(12) Austria ..	15	16	11	14	3	2	1	1
(13) Sweden ..	29	28	20	18	—	—	—	—
(14) Portugal ..	5	5	7	5	—	—	—	—
(15) Finland ..	4	3	3	4	—	—	—	—
(16) Hungary ..	1	4	3	3	3	1	—	1
(17) *Yugo Slavia ..	8	—	—	—	6	—	—	—
(18) Denmark ..	5	6	5	5	—	—	—	—
(19) Norway ..	3	3	3	2	—	—	—	—
Europe Total	679	837	783	695	363	253	259	153
ASIA								
(1) India ..	13	19	31	102	935	801	891	692
(2) Japan ..	306	281	278	370	296	113	324	134
(3) China ..	54	61	98	154	51	25	44	34
Asia Total	373	361	407	626	1,282	939	1,259	860
AMERICA								
(1) U.S.A. ..	1,175	1,553	1,299	1,164	9	7	6	15
(2) Canada ..	69	98	41	49	—	—	—	—
(3) Mexico ..	—	5	11	—	—	—	—	—
(4) Brazil ..	—	—	—	—	—	—	—	—
America Total	1,244	1,656	1,351	1,213	9	7	6	15
Other Countries	11	19	17	9	1	11	3	3
HALF-YEAR'S TOTAL	2,307	2,873	2,558	2,543	1,655	1,210	1,527	1,081

† No returns from Russia. Figures for this country are rough estimates.

* Formerly included in Other Countries.

on 31st July, 1934, with previous figures for made to the International Cotton Federation.

IN THOUSANDS OF ACTUAL BALES
(regardless of weight)

EGYPTIAN				SUNDRIES				TOTAL			
Half-year ending				Half-year ending				Half-year ending			
July 31 1934	Jan 31 1934	July 31 1933	July 31 1932	July 31 1934	Jan 31 1934	July 31 1933	July 31 1932	July 31 1934	Jan 31 1934	July 31 1933	July 31 1932
64	64	46	37	62	65	67	50	235	216	220	162 (1)
38	35	32	30	45	26	21	16	292	277	287	214 (2)
24	23	51	20	24	21	14	13	217	265	264	195 (3)
—	—	—	10	362	180	175	200	369	195	185	215 (4)
37	26	19	29	5	4	7	7	260	259	220	204 (5)
7	7	4	3	3	3	4	2	58	61	53	42 (6)
2	2	1	4	19	12	9	16	92	87	82	88 (7)
7	10	9	8	2	1	1	2	31	35	46	35 (8)
2	1	3	3	3	1	1	—	21	20	16	18 (9)
15	14	13	13	2	1	1	2	47	45	43	35 (10)
—	—	—	—	7	4	1	3	65	62	52	55 (11)
4	3	3	1	1	2	1	1	23	23	16	17 (12)
3	1	1	1	1	—	—	—	32	29	21	19 (13)
1	1	1	1	3	3	1	1	9	11	9	7 (14)
—	—	—	—	—	—	—	—	4	3	3	4 (15)
1	1	1	5	1	—	—	—	9	6	4	9 (16)
—	—	—	—	—	—	—	—	14	—	—	— (17)
—	—	—	—	—	1	—	1	5	7	5	6 (18)
—	—	—	—	—	—	—	—	3	3	3	2 (19)
204	188	184	165	543	326	303	314	1,759	1,604	1,529	1,327
13	10	9	19	60	37	47	59	1,021	867	978	872 (1)
20	15	17	17	31	37	28	9	653	446	647	530 (2)
4	3	3	3	272	336	208	164	361	425	353	355 (3)
37	28	29	39	363	410	283	232	2,055	1,738	1,978	1,757
23	19	17	21	14	15	22	12	1,221	1,594	1,344	1,212 (1)
2	3	1	2	—	—	—	—	71	101	42	51 (2)
2	1	—	—	17	85	16	24	49	71	27	24 (3)
—	—	—	—	64	59	49	34	64	59	49	34 (4)
27	23	18	23	125	139	87	70	1,405	1,825	1,462	1,321
4	5	4	1	72	66	57	44	58	101	81	57
272	244	235	228	1,103	941	730	660	5,337	5,268	5,050	4,462

ESTIMATED TOTAL WORLD'S COTTON years 31st July, 1934, and 31st January the International

COUNTRIES		TOTAL ESTIMATED NUMBER OF SPINNING SPINDLES		MULE SPINDLES	
		Half-year ended		Half-year ended	
		July 31, 1934	Jan. 31, 1934	July 31, 1934	Jan. 31, 1934
EUROPE .					
(1)	Great Britain ..	45,893	47 952	34,108	36,059
(2)	France	10,170	10,170	2,557	2,557
(3)	Germany	10,109	9 935	3,263	3,225
(4)	Russia†	9,800	9 200	2,187	2,187
(5)	Italy	5,493	5,378	570	570
(6)	Czecho-Slovakia ..	3,627	3 668	1,544	1,573
(7)	Belgium	2,106	2 094	344	350
(8)	Spain	2,070	2 070	431	431
(9)	Poland	1,696	1,619	475	504
(10)	Switzerland	1,295	1,296	455	475
(11)	Holland	1,236	1 228	273	271
(12)	Austria	774	757	282	232
(13)	Sweden	602	595	48	49
(14)	Portugal	452	451	137	137
(15)	Finland	271	270	46	46
(16)	Hungary	283	274	44	44
(17)	†Yugo Slavia ..	158	—	51	—
(18)	Denmark	100	100	—	—
(19)	Norway	48	58	10	10
	Total	96,183	97,315	46,825	48,720
ASIA :					
(1)	India	9,572	9,572	757	757
(2)	Japan	9,115	8,641	35	35
(3)	China	4,680	4 640	—	—
	Total	23,367	22 853	792	792
AMERICA :					
(1)	U.S.A.*	30,938	30,968	550	1,166
(2)	Canada	1,187	1,209	99	107
(3)	Mexico	862	832	7	7
(4)	Brazil	2,702	2,698	5	5
	Total	35,689	35 707	661	1,285
	Other Countries ..	1,639	1 843	289	334
	Grand Total ..	156,878	157,718	48,567	51,131

* U.S.A.—The division between mule and ring and the number of spindles on Egyptian is only approximate.

† No return received from Russia. Figures for this country are rough estimates only

‡ Formerly included in Other Countries.

SPINNING SPINDLES (000's omitted) for the half-1934, on basis of returns made to Cotton Federation.

RING SPINDLES		SPINDLES SPINNING EGYPTIAN COTTON		SPINDLES IN COURSE OF ERECTION		
Half-year ended		Half-year ended		Half-year ended		
July 31, 1934	Jan. 31, 1934	July 31, 1934	Jan. 31, 1934	July 31, 1934	Jan. 31, 1934	
11,785	11,893	16,554	16,841	26	37	(1)
7,613	7,613	1,602	2,339	24	1	(2)
8,846	6,710	1,455	1,191	51	50	(3)
7,613	7,013	?	?	?	?	(4)
4,923	4,808	650	650	—	—	(5)
2,083	2,095	616	473	1	—	(6)
1,762	1,744	38	29	1	—	(7)
1,639	1,639	207	207	—	—	(8)
1,221	1,315	315	303	8	—	(9)
840	821	645	552	4	15	(10)
963	957	2	1	—	9	(11)
492	525	107	74	—	—	(12)
554	546	23	24	3	2	(13)
315	314	36	31	—	2	(14)
225	224	18	18	1	7	(15)
239	230	47	21	—	20	(16)
107	—	6	—	5	—	(17)
100	100	—	—	—	—	(18)
38	48	—	—	—	—	(19)
49,358	48,595	22,321	22,754	124	143	
8,815	8,815	324	347	51	61	(1)
9,080	8,606	773	618	150	150	(2)
4,680	4,640	—	—	—	—	(3)
22,575	22,061	1,097	965	201	211	
30,388	29,802	1,000	1,000	?	?	(1)
1,088	1,102	78	78	—	3	(2)
855	825	8	7	—	—	(3)
2,697	2,693	—	—	—	11	(4)
35,028	34,422	1,086	1,085	—	14	
1,350	1,509	217	167	10	20	
108,311	106,587	24,721	24,971	335	388	

TOTAL WORLD.

Date	Total Estimated Number of Spinning Spindles existing in world	ESTIMATED MILL STOCKS—In thousands of ACTUAL BALES (000's omitted) "INVISIBLE" SUPPLY					Per 1,000 Spindles. Total, all kinds of Cotton
		AMERICAN	EAST INDIAN	EGYPTIAN	SUNDRIES	TOTAL	
Feb. 1, 1934	157,718,000	2,873	1,210	244	941	5,268	33.39
" 1933	158,984,000	2,699	832	208	803	4,542	28.57
" 1932	162,070,000	2,775	984	212	637	4,608	28.43
" 1931	163,571,000	2,427	1,212	202	745	4,586	28.04
" 1930	165,143,000	2,742	1,173	224	792	4,931	29.86
" 1929	165,104,000	2,958	1,216	182	938	5,294	32.06
" 1928	164,979,000	2,867	969	183	863	4,882	29.59
" 1927	164,616,000	2,982	829	173	771	4,755	28.88
" 1926	162,972,000	2,862	915	200	671	4,648	28.52
" 1925	159,904,000	2,369	738	197	655	3,959	24.76
Mar. 1, 1913	142,186,000	3,448	716	279	973	5,416	38.00
Aug. 1, 1934	156,878,000	2,307	1,655	272	1,103	5,337	34.02
" 1933	157,755,000	2,558	1,527	235	730	5,050	32.01
" 1932	161,002,000	2,543	1,031	228	666	4,462	27.71
" 1931	162,278,000	1,871	1,585	217	660	4,313	26.58
" 1930	164,108,000	1,985	1,667	237	609	4,498	27.41
" 1929	164,211,000	2,129	1,761	228	745	4,863	29.61
" 1928	165,103,000	2,112	1,728	170	777	4,787	28.99
" 1927	164,597,000	3,056	1,515	210	626	5,407	32.85
" 1926	163,723,000	1,969	1,589	201	739	4,498	27.47
Sept. 1, 1913	143,449,000	1,655	1,405	273	744	4,077	28.42

ESTIMATED COTTON MILL CONSUMPTION—In thousands
of ACTUAL BALES (000's omitted)

Half-year ending								
July 31, 1934	156,878,000	6513	2403	564	3098	12578	80.18	
Jan. 31, 1934	157,718,000	7022	2369	544	2599	12534	79.47	
		13535	4772	1108	5697	26112	159.65	
July 31, 1933	157,755,000	7323	2161	472	2514	12470	79.04	
Jan. 31, 1933	158,984,000	6847	2059	462	2514	11882	74.74	
		14170	4220	934	5028	24362	153.78	
July 31, 1932	161,002,000	6202	1976	493	2121	10792	67.03	
Jan. 31, 1932	162,070,000	6117	2312	487	2114	11530	71.14	
		12319	4768	980	4236	22322	138.17	
July 31, 1931	162,278,000	5630	2850	459	2385	11324	69.75	
Jan. 31, 1931	163,571,000	5278	3013	394	2479	11164	68.25	
		10908	5863	853	4864	22488	138.00	
July 31, 1930	164,108,000	5940	3102	435	2530	12007	73.16	
Jan. 31, 1930	165,143,000	7083	2985	502	2632	13202	79.94	
		13023	6087	937	5102	25209	163.10	
July 31, 1929	164,211,000	7463	2604	492	2455	13014	79.25	
Jan. 31, 1929	165,104,000	7613	2574	497	2184	12868	77.94	
		15076	5178	989	4639	25862	167.19	
July 31, 1928	165,103,000	7181	2220	467	2685	12553	76.03	
Jan. 31, 1928	164,979,000	8226	2303	489	1969	12987	78.72	
		15407	4523	956	4654	26540	164.76	
July 31, 1927	164,597,000	8357	2378	506	2171	13412	81.48	
Jan. 31, 1927	164,616,000	7423	2818	487	2001	12729	77.32	
		16780	5106	993	4172	26141	168.80	
Year ending Aug. 31, 1913	143,449,000	14630	3977	946	3447	23000	160.34	

SPECIFICATION OF PART OF THE COTTON RETURNED AS "SUNDRIES" (IN ACTUAL BALES)

Six Months ending July 31st, 1934, based on Actual Returns.

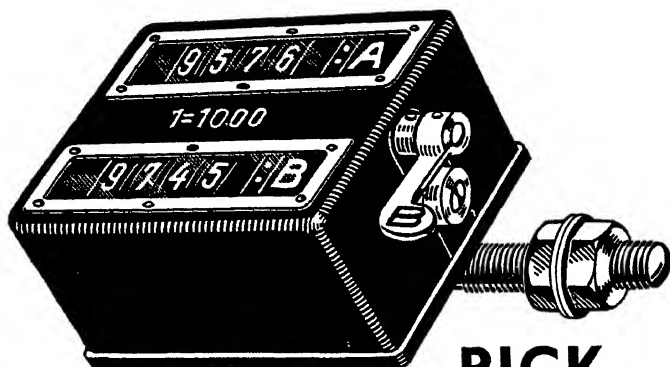
Country	Peruvian	Brazilian	Argentinian	West Indian	Mexican	Turkish	Russian	Japanese	Sudan	African	West African	South African	Chinese	Others	Total
Great Britain	18,255	50,310	13,290	8,614	483	1,805	2,432	430	30,868	17,343	10,117	780	126	1,546	290,832
Germany	19,454	27,190	11,128	8,614	153	1,032	2,440	1,956	161	829	20,108	1,090	126	6,982	77,861
France	2,691	5,414	2,001	20	—	2,263	—	—	4,569	2,064	13,073	—	—	6,820	38,061
Italy	143	443	453	—	—	168	1,060	30	241	241	—	—	—	849	2,744
Belgium	1,085	740	60	—	—	34	—	—	10,469*	24	—	—	—	1,457	27,744
Netherlands	236	144	—	—	—	—	1,223	—	141	244	91	115	—	1,058	2,150
Poland	431	807	314	—	—	—	—	—	135	—	—	—	—	301	1,658
Czechoslovakia	1,735	11	—	—	—	122	511	—	1,345	13,040*	—	—	—	15,124	15,124
Austria	225	197	—	—	—	94	85	—	—	5,307	8,079	—	—	9,624	9,624
China	—	—	—	—	—	—	—	—	—	—	—	—	920,000	8,757	8,757
Brazil	—	280,000	—	—	—	—	—	—	—	—	—	—	—	280,000	280,000
Mexico	—	—	—	—	91,000	—	—	—	—	—	—	—	—	—	91,000
Japan	—	—	—	—	—	—	—	—	—	—	—	—	20,497	49,008	69,405
										6,705	—	—	—	911	911
														49,008	49,008
														48,773	48,773
														Others	Others
														112,127	112,127
														940,623	940,623
														1,798,747	1,798,747

STOCKS

United Kingdom	10,527	7,207	2,000	8,263	126	1,128	575	45	10,630	9,600	1,001	2,437	10	134	1,155	93,292
Germany	9,760	2,860	1,760	304	78	388	1,072	203	203	203	3,391	2,637	134	2,304	2,304	225,000
France	2,294	20,446	1,065	163	1,826	388	1,072	203	203	203	3,391	2,637	134	2,304	2,304	14,687
Italy	105	282	1,065	163	1,826	388	1,072	203	203	203	3,391	2,637	134	2,304	2,304	7,937
Belgium	688	1,410	1,065	163	1,826	388	1,072	203	203	203	3,391	2,637	134	2,304	2,304	18,477
Switzerland	371	501	1,065	163	1,826	388	1,072	203	203	203	3,391	2,637	134	2,304	2,304	3,448
Poland	441	910	607	607	75	193	103	00	938	51	4,748	1,164	137	1,164	1,164	7,007
Holland	335	335	335	335	335	335	335	335	335	335	335	335	335	335	335	3,245
Czech-Slovakia	335	335	335	335	335	335	335	335	335	335	335	335	335	335	335	1,257
Austria	77	166	166	166	166	166	166	166	166	166	166	166	166	166	166	272,000
China	64,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	61,000
Brazil	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17,000
Mexico	—	—	—	—	47,000	—	—	—	—	—	—	—	—	—	—	—
Spain	22,280	97,897	8,765	8,700	47,204	8,090	7,376	398	20,613	18,454	35,279	2,070	354	272,494	11,121	567,624

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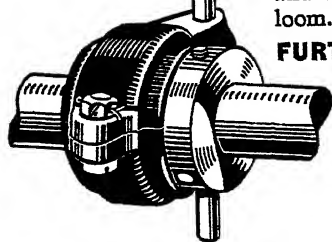
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Japan's Cotton Industry.

IMPRESSIONS OF A THIRD JOURNEY.

Mr. ARNO S. PEARSE, for 25 years General Secretary of the International Cotton Federation, whose main activity is now Adviser to the Missr Cotton Export Company, Alexandria, still acts as Expert Adviser to the International Cotton Federation. He has recently addressed the cotton industrialists of England, Germany, France, Czecho-Slovakia, Switzerland, Italy, Belgium and Holland on the subject of the Japanese Cotton Industry.

We give below the main points of his address delivered in England, as many members have asked for the publication of this Lecture. The other lectures were on the same lines, but in German and French. The opinions expressed by Mr. Pearse in this lecture represent his own personal views.

THE foremost place among all the industries of Japan is occupied by the cotton industry. There are now in Japan 8,173,994 ring spindles, 35,320 mule spindles, and 833,016 doubling spindles. There are affiliated with the Japan Cotton Spinners' Association 98 per cent. of all the spinning mills, but there are many weaving mills outside this organization; 81,552 looms are associated with it, but probably half as many again exist, frequently in small factories.

Five years ago the writer published a book, entitled "The Cotton Industry of Japan and China," in which the rapid development was traced, and a forecast of the future expansion attempted. Japan is now the second largest consumer of cotton, owing to its double shift and the fact that the average number of counts spun is still low, about 22's, but Japan last year became the largest exporter of cotton goods, and this is an event of outstanding importance.

Japan is, from an industrial point, the most hated country throughout the world. The reason is simply that Japan produces cheaper than any other country and the difference in price is so marked (from 25 per cent. to 50 per cent.) that the European cotton industrialist has, in many cases, given up hope of overcoming it.

We will endeavour to examine the causes of Japan's low cost of production. Perhaps it may be feasible to introduce some of their methods in Europe. What will be said in regard to cotton applies even more so to rayon, where the raw material is within the country, and in a few years Japan's wool industry is likely to see a similar development.

First and foremost, we must mention the factor of the yen-devaluation; this is probably equivalent to a 50 per cent. reduction of wages and all overhead charges. Overhead charges in Japan represented in normal times about 30 to 35 per cent. Consequently the yen-devaluation accounts for 15 per cent. to 18 per cent. in the lower cost of an article, as compared with the pre-deflation period. To-day, the yen buys as much in Japan as it did before deflation. This is a remarkable fact. Rice, which is to the extent of 80 per cent. the staple food of all Japanese, is slightly lower in price. Japan has a gold cover of about 46 per cent. of her currency, she can therefore allow herself the otherwise dangerous weapon of devaluation. To all appearances her budget does not balance, but we do not know how Japan's invisible receipts are accounted for. Tourists, are again coming in very large numbers to Japan and leave large sums in the country. Japan is one of the very few countries where real artistic goods of superior quality are made by able craftsmen, and few tourists leave Japan without having made important purchases. Her shipping grows steadily every year; she has also an income from insurances and from her considerable investments in China and other countries. Japan has no war debts.

The yen devaluation is probably only a temporary measure, and will continue as long as other industrial competing countries remain off the gold standard.

In Europe one generally attributes the lower cost of production to the lower wage. It is well to remember that wages in Japan, according to a French authority who has lived in the country for 40 years, have advanced in that period 16-fold. Which country in Europe can show a similar increase? Undoubtedly wages will move upwards, but only slowly. The Japanese worker will never have the same standard of living as in England. It would kill him to adopt the same food; he will gradually have better houses to live in and accustom himself to better heating in winter, and he may wish to work less hours, but all this will take a generation or two.

At the present time the wage of a girl in the cotton mill is 80 sen per day of 8½ hours; that corresponds approximately to one shilling at the rate of exchange in force to-day. To this must be added cost of housing, contribution to the cost of feeding, welfare institutions, such as theatres, cinemas, schools, gymnasium, different kinds of sports, hospitals, etc. There is no old-age pension, sickness insurance, and considering the low rate at which all these welfare institutions can be established and maintained in Japan, the sum total of their cost corresponds to what is paid by the European industrialist for these State contributions.

At least 85 per cent. of the mill operatives are girls; the vast majority of them remain only about three years in a mill, because their one aim in life is to get married in their native heath and become mothers. Birth-control is contrary to Japanese religion

and national views, and will therefore not make headway. The Japanese women are excellent mothers, sacrificing themselves for the benefit of their children and husbands. They are a great asset to the country. As the mill girls remain at work on an average only three years, it does not pay them to become members of a trade union, and as they really enjoy a much happier life in the mill compound than in their homes in the country, they have no grievance, speaking generally, which a trade union might remedy. Women in the East are, of course, far more submissive than in the West. The girls may sign a contract of work for a period of years, the same as is the case in many places in the East (tea and rubber plantations in India, Ceylon, etc.), but they have many liberties, perhaps more than girls in European boarding-schools, and any girl who really insists upon returning home can do so. An unwilling worker is a loss to the employer. There must be army-discipline in an establishment where a thousand girls are housed; young girls do not know what kind of pleasures are good for them, and therefore the employer has to organize their lives; he sends some of the wages to the parent, and saves part for the girls; thus at the end of their working period they have enough money to furnish themselves with a dowry. The girls have no chance of frittering all their earnings away.

It is not alone the low wages of the operatives that contribute to the lower cost, but the extremely low overhead charges. Salaries of all office workers, mill managers, are only a third and less of what one pays in England. Rents and taxes are cheap. When a business is paying, the whole of the staff gets a bonus, which is generally equal to the salary. The actual necessities of life are very few, as rice is the staple food, and the pleasures of the Japanese are inexpensive and simple in the extreme. The main delight of all classes, men and women, is to admire nature, old trees, cherry blossoms, azaleas, wistarias, lotus lilies, pine trees, stones, waterfalls, to all of which they give spiritual interpretations, and thus their admiration of these objects of nature becomes a cult, part of a religion. Even among the humblest of them it has also created an artistic temperament, such as no nation possesses amongst the working-classes. It is probably also responsible for the kindness and consideration with which they treat each other. Sports like base-ball, football, tennis and golf are increasing in popularity, but do not engage the attention of the people to anything like the extent as in Europe. Smoking is very inexpensive (a quarter of the cost in England) and "Sake," the wine of Japan, made from rice, is very cheap indeed. On a Sunday one sees large numbers of men who have had too much Sake, but I am told they are not habitual drinkers.

The family spirit is still predominant, and this is the chief factor which has made Japanese industry what it is to-day, in the short period of sixty years. This industrial expansion dates from the time when the country was opened up to foreign intercourse, sixty years ago. This family spirit means that every operative and every salaried person regards his employer as the head of his family. Right or wrong, he supports him wholeheartedly. The employers, on their side, take a keen interest in all who work for them and relations between them are democratic. But there is that national

family spirit as well, the whole population works with the ultimate object of benefiting the nation. That is an asset which no European nation possesses in that degree, and is chief among the many other advantages the Japanese enjoy.

The average dividend percentage for 1933 of the 80 firms belonging to the Japan Cotton Association was for the first half-year 10.6 per cent. and for the second 10.8 per cent. Debentures, loans, redemption of fixed capital and surplus profits carried forward, all showed increases in the second half-year.

Let us consider the commercial and technical organizations that have caused this result.

The mills do not, as a rule, sell abroad direct, but through the intermediary of a few firms, which are all engaged as well on importing raw cotton for the mills. It becomes a barter business, worked with a minimum of expenditure, saving in commissions and exchanges. These export and import firms do not earn much money, the highest rate of dividend paid by the most important one was never higher than 8 per cent; it proves that they look for big turnovers and content themselves with smaller profits than the mills. One of these export and import firms paid no dividend last year. The foremost cotton importer, together with its branches in U.S.A., India, China and Europe, is not only the second largest cotton-merchandising firm in the world, with a sale of 1,800,000 bales per year, but also the largest cotton and rayon goods dealer. These firms have their own branches in practically all parts where cotton is grown and where they sell large quantities of goods. These branches are maintained in the most inexpensive way. They do not rely upon the services of another native firm. That represents an economy of considerable importance, and means that the parent house has always a well-trained staff at its disposal to take the management over at head office. Freights and other expenditure, such as insurance, are cut down by concerted action of the few combines engaged in this trade. There are considerable savings in packing, which has been carefully studied for each market. Finishing plants are joined to the mills, not requiring sending to and fro and re-examination of the goods.

In the purchase of raw cotton, the mills never, or only in very rare cases, hedge their purchases. The cotton merchants do so, and often take a view of the markets. They give part of the benefit of their speculation to the mills in exchange for an advantageous sale of manufactured goods. In some cases the merchants are big shareholders in the mills.

There exists in Japan, and to some extent in China and India, a system of intercommunicating quantities, qualities and prices of cotton bought and goods sold. A few hours after making a purchase, the rest of the mills know all details. That, to European business views, is a thing unheard of, and not very pleasant from the sellers' point of view. Some members of the staff in each cotton mill compile elaborate daily records. For the buyer the system has the advantage that the whole of the country can buy at the same price; it is the same advantage that a combine of firms has in the purchase and sales. In some offices, contracts are made in the presence of representatives of competing firms. The Japanese realize that we live in the century of collectivism and that

individualism is dead. It stands to reason that all these conditions tend to lower prices, particularly if one considers the big quantities placed at one and the same time. The Japanese spinner buys his cotton when he considers it low in price, or when he sees sales of yarn improving. If the market goes against him he averages, buying more cotton with every considerable fall. That is his way of hedging, but he can afford to do it this way as he has good reserves, and he makes sure by this system that his raw material is not far from the bottom price. For the rich mill it is nothing else but a justified commercial risk, but for a mill without the necessary resources it is rank speculation. These reserves originated to a great extent from the war when Japan was forced by the Allies to lay cotton in store for several years ahead. As these purchases were not hedged the Japanese gained enormously, due to rising prices. Buying "on call" is also unknown to the Japanese.

A very useful and unique institution in Osaka is the Sampin Exchange, i.e., three commodity exchanges, where cotton yarn, American cotton and rayon are dealt in, spot and futures. Offers and demand are made known and an official auctions the price, equal for each month and applicable to all. For each commodity about twenty minutes are allotted, and this change-over goes on during all the business hours. The yarns of every mill are classified. It is intended to deal also in Indian and other cottons easily standardized, also in cotton cloth.

Though the manufacturers do not sell direct, they very often send missions of technical men, along with merchants, abroad to investigate new markets. The industry, in co-operation with the Government, maintains showrooms in charge of competent officials in several parts of the world.

Let me assure you that there is no Government subsidy to the cotton industry. Is it reasonable to believe that an industry that divides annually more than 10 per cent. in dividends would receive a subsidy. Would any Cabinet doing this be able to maintain itself for a month?

I find the Japanese a shrewd business man, painstaking, hard-working and quick in making decisions, ready to pick up a new variety of cotton or a new machine. The Japanese does not get excited, the cultured Japanese aims at neither showing his pleasures nor his grief; he is not demonstrative in anything, and for that reason we Europeans misjudge him frequently; as we are apt to misjudge all Orientals. He likes a little speculation within reason.

So much for the commercial characteristics of Japanese business; as regards the technical equipment in the spinning of cotton, we have not much to learn. The Japanese concentrates on speed. He does not hesitate to obtain the best machinery which money can buy. They started spinning only about 35 years ago, and profited by the experience of other countries; they kept their machinery up to date, quickly replacing worn-out parts. They are past-masters in mixing cotton, understand Indian cotton thoroughly. All their machinery, except the cards, is run fast. The mills are cleaner than any mills in Asia, and cleaner than most mills in Europe, using Indian cotton. As the Japanese are undoubtedly the cleanest race on earth (every operative takes daily a hot bath and scrubs himself), cleanliness has become

their second nature, and houses and factories are spotlessly clean.

The Japanese now make all their textile machinery in their country; everything, even combers are made there. The complicated mule has been almost entirely discarded. Spindle revolutions of 14,000 per minute for 20's are not an exception. High-draft systems of different kinds are working everywhere; the one mostly in use is an improved apron-system on the lines of Casablancas. In the warping they have fast-running machines; spooling and winding frames are high-speed ones. Automatic looms of various Japanese makes are freely used. When explaining to a manufacturer the advantages of Egyptian cotton over American when weaving on automatic looms, I added: "I presume you have automatics?" The manufacturer seemed quite offended by this question, and said, "How can any manufacturer exist without them?" The Toyoda automatic loom costs, delivered at the mill, £24 for 44 ins. reed space. Compare this with prices in Europe!

All this making of textile machinery does not only mean a loss of the amount of machinery Japan used to buy, but it considerably cheapens their cost of producing yarn and cloth. Formerly the original cost of a machine in Japan was much higher than in England, owing to heavy charges of packing, freight and insurance, etc. When I was in India, an Indian millowner told me that he was highly satisfied with his new Japanese ring frame.

Of course, the double-shift system, from an economical point of view, is still a great advantage which Japan has over Europe, but the trade unions in England will not allow increased hours of work, and presumably that advantage cannot be balanced until they relent.

Simplification of work is going on everywhere. The combines set entire mills apart for one or two counts. Some 200,000 spindles are now in course of erection for spinning 60's and above. One of these, a mill with 60,000 spindles, is to spin nothing but 60's.

The increase in Japan's mill extension will be at a slower rate than in the past, because the textile machinery plants are still on a small scale, and cannot cope with the demand. Delivery for orders placed May, 1934, could not be promised before July, 1935. It was pointed out to me that the Japanese case-harden their spindles for a much longer distance than the English. The Japanese have made a traveller with a kind of milled edge that will not fly off at high speeds. This speciality is obtained by a chemical process. They are always on the look-out for improvements.

All these technical and commercial advantages which the Japanese seem to possess over Europe are trifling, each taken by itself, but they are numerous, and their total, added to the very considerable yen-devaluation, makes up that difference of 25 to 50 per cent. of which European industrialists complain. There is, however, no need to lose heart, provided the yen-devaluation is not permanent. You can emulate many of their advantages, particularly in the commercial section, and trade unions will have to recognize that many of their demands are inimical to the best interests of the nation. As the unions have lost many of their members through the closing down of mills, they will, let us hope, finally come to the rescue and work with the employer and the nation, instead of pulling the other way.

It would seem to me that the recent declaration of trade war against Japan has perhaps been a little premature. Are you sure that Australia will follow? During the last few days of my stay in Japan there was in the same hotel the Australian Goodwill Mission. Japan is now, due to her heavy wool purchases, an important client of Australia. In India, the millowners have, until lately, been the dominating factor in deciding the duties on cotton goods, but now the agricultural masses have made their voice heard and have plainly said to them, why should we, the masses of India, not be able to buy in the cheapest market, especially when that market is a very good customer of ours? Recent events in Ceylon, where mass meetings were held to protest against the quota, show a similar trend. Canada buys less from Japan than she sells to her. In Japan, the announcement of the restrictions had an effect for one day on the local markets, but the people argued that *in the long run* the cheapest producer would be the victor, and they went about their business as usual, calm and collected. The Japanese live in rooms with many doors; when one closes, the other opens; they are of very pliable material, adapting themselves most readily to new conditions. As they are big buyers of raw material in many parts of the world, they have a powerful weapon, and though, so far, they have not resorted to dumping in cotton goods, they certainly can afford to do so better than any other nation.

We see, therefore, that amongst the Dominions there are Canada and Australia which send more to Japan than they receive from her, and Japan is on the wrong side, importing altogether more than she exports. In India, the balance is only a trifle against Japan. She buys almost exclusively raw materials from the British Colonies, which can also be had in South America, where Japan just now is making a special effort to open up new markets for her goods and for the purchase of raw materials. Wherever she buys she insists on selling and makes agreements accordingly—a very wise action. She has a small number of settlers in Brazil and Peru.

The present quota-measure forces Japan into the hands of China. On the face of it, China and Japan are still enemies, but not so in reality. They have as a basis the same old civilization; partly their religion is the same; both nations use the same characters in writing; and both nations are racially related. Japan and China are settling amicably their political differences, and the Japanese are again becoming friendly, at least for business purposes. An announcement appeared recently in a Shanghai newspaper that Chinese bankers had asked Japanese to run the Chinese cotton mills for them. Chinese come to Japan in order to attend the technical schools there. Some day Japan may be leading a Pan-Asiatic Union. The Japanese, by dint of ability, will in any combination of the Far East be the leaders.

The Japanese fully realize that Europe cannot stand by and see all their old markets taken possession of by Japan. They know that Europe is bound to fight in order not to have to scrap her factories and increase the number of unemployed. They are genuinely willing to meet you, but how far? Each party wants the lion's share.

It is next to impossible for the Japanese to give up the double shift, as their home market consumes now 50 per cent. of the pro-

duction of the cotton mills; in other words, one shift would just be enough to supply that demand. The real grievance between Japan and Europe is not that the former tries to export, but that she does so at prices which show such enormous differences against Europe. Efforts are being made to establish in Japan an Export Association that is to regulate the export at more equitable prices, i.e., preventing the undercutting by Japanese against Japanese. It will take a long time before this functions. Allotting to each side the making of certain goods is another way, but that will also create difficulties hard to overcome in a practical way.

The rayon industry of Japan has made a very formidable progress, and in the short time of its existence it has managed to pay good dividends and enlargements of factories are going on. Each big cotton mill combine has its rayon mill, which it manages on its successful lines. Staple-fibre, i.e., the cut artificial silk, is finding employment in the cotton mills.

During the last few years the wool industry has been reorganized, and this organization still proceeds.

Some Japanese consider that they have been benefactors to humanity by making cotton goods and rayon goods so cheap that no human being need be without a sufficient supply. They maintain that in consequence of its marked difference in price, as compared with a few years ago, they have done exactly what Ford accomplished when he made the automobile accessible to the multitude. And yet the industrial world is up in arms against Japan's efficiency!

I have mentioned earlier that some 80,000 looms are not affiliated to the Japan Spinners' Association. A large number of these are in small workshops employing often only five people. Some of the numerous little workshops contribute to the export of cotton crêpe drills, flannelettes, ticks, through industrial and export associations that have been organized on co-operative lines through the Government. Similar organizations of small workshops, producing bicycles, electric lamps, earthenware toys, matches, etc., have been created, and the Government assists them with small sums. The principal aim of the associations is to teach these small manufacturers the export business, to examine the goods (in order to make sure that they are right and will not injure the reputation of Japanese products), to advance where necessary funds under Government guarantee up to 70 per cent. in case of loss. Under this heading the State advanced in 1933 the small sum of about one million pounds sterling, in a similar way as England and other European countries do in the case of trade with Russia, etc.

There is in Japan a law of Association, revised in 1931, according to which any measure once decided upon by a majority of members may be enforced by the competent official authority upon all dissenting members *and* non-members. So far this law has been enforced 14 times.

It goes without saying that in the many small workshops mentioned just now it will be difficult for the factory inspectors to see to the strict enforcement of the law, and the welfare work of the small weaving sheds will not be on a par with that of the big mills.

It is strange that Japan has succeeded in developing this small workshop industry alongside the big mill industry, and the

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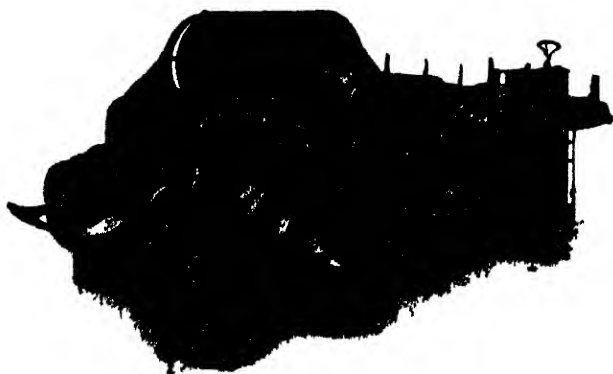
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Government is using its influence in getting these small people to contribute towards the exports, not only of cotton, but of some 60 commodities.

When China becomes industrialized—and that is not far distant—Europe will feel a still more acute competition and Japan will be a fellow-sufferer.

JAPANESE FACTORY STATISTICS.

The Department of Commerce and Industry of the Japanese Government recently published a statistical survey of factories usually employing or capable of employing five or more persons, as at the end of 1932.

The tabulations show that there were 21,297 textile factories (cotton, silk, wool, rayon, etc.), in Japan at that time. This represents 31.6 per cent. of all factories in Japan. The number of operatives employed by the textile industry amounted to 881,459, or 50.9 per cent. of all persons employed in industry. Of these textile operatives 18.3 per cent., or 161,408, were men, and the balance, 720,051 (81.7 per cent.) were women. The textile industry shows the largest proportion of women employed occupied in industry. The age distribution of workers is as follows:—

Age group	Number	Percentage
Under 16	167,566	9.7
16 to 50	1,533,120	88.4
Over 50	32,825	1.9
Total	<u>1,733,511</u>	<u>100.0</u>

The number of workers under 16 years of age was thus less than 10 per cent. Most of them (about 140,000) were employed in the textile industry.

Wages in the Cotton Industry in Bombay.

The following is extracted from *The Ministry of Labour Gazette*:—

AT the request of the Indian Government, the Bombay Labour Office conducted an inquiry in the early months of 1934 into wages, cost of living, real wages, rationalization and unemployment in the cotton textile industry in the Bombay Presidency, with the object of ascertaining the changes which had taken place since July, 1926, the date of the previous inquiry into wages in this industry.

Officials from the Labour Office visited 159 mills, employing

some 200,000 workers in the Presidency, and extracted information regarding earnings, etc., from the muster and pay rolls for December, 1933, in respect of a "sample" varying, according to the numbers employed, from 10 to 100 per cent. of the workers in ten occupations in the six most important departments of the mills. In the case of the earlier inquiry, information was obtained from a limited number of mills and for all workers employed therein. The results of the inquiry are contained in a Report, entitled "Wages and Unemployment in the Bombay Cotton Textile Industry," obtainable from the High Commissioner for India (India House, Aldwych, London, W.C.2), at the price of 2s.

RATIONALIZATION.

It is stated that the method of rationalization which takes the form of asking operatives to mind more machines than formerly has made the greatest progress in Bombay City; but, even there, less than one-third of the mills have attempted rationalization in this form. In Ahmedabad, rationalization has been particularly directed towards improving the efficiency and types of machines used. The effect of rationalization on earnings varied from mill to mill. In a few mills in Bombay where rationalization has not been accompanied by wage cuts, the workers were earning substantially more than they did before rationalization was introduced. In other cases the workers are not earning any more, the effect of the extra rates given for minding more machines having been neutralized by general reductions in wages, usually in the form of cuts in the cost-of-living allowance. The general effect of rationalization on the conditions of work is stated to have been beneficial, either because the operatives are working a shorter day or because their work has been rendered easier. In Bombay, one of the methods of rationalization has been to give a weaver four looms instead of two. In Ahmedabad this system has not been adopted, but double-side working in the frame department is developing, and better mixings and the production of finer cloth have progressed rapidly; where operatives are attending more machines than formerly, the workers have usually been given more wages—35 to 60 per cent. in ring spinning and 50 to 75 per cent. on the speed frame. Some benefit from the increased efficiency of the plant has been passed on to some workers in the form of higher earnings on the machines concerned. At almost all the mills in Bombay which have introduced rationalized methods the labour so displaced has been re-absorbed by the introduction of night-shift working. In centres other than Bombay and Ahmedabad there have been few changes in machinery or methods.

UNEMPLOYMENT.

Owing to the fact that the cotton operatives were in many cases not permanent inhabitants of the localities in which they were working, but were drawn from agricultural districts, it was difficult to ascertain the exact amount by which unemployment has increased in the cotton industry between 1926 and 1933. In Bombay City about 28,000 persons lost their employment between 1926 and 1933 owing to the closing down, either totally or partially, of certain cotton mills. In Ahmedabad 26,551 persons more and in Sholapur

389 persons less were employed in the cotton industry in 1933 than in 1926.

WAGES.

The cotton industry in Bombay consists of various units, which have no common labour, wages or sales policies, and there are wide variations in the conditions prevailing in the different centres. It was therefore found desirable to consider the three main centres, Bombay City, Ahmedabad and Sholapur, separately. For other districts information regarding earnings was obtained, but no corresponding data for 1926 are available for these districts for purposes of comparison.

For the three main centres of the industry in the Bombay Presidency, the following table summarizes the results of the inquiry in the form of index numbers, by which the level of the average earnings of all workers covered, of the cost of living, and of real wages at various dates in 1933 and 1934, is compared with the level in 1926 or 1927.

The standard (= 100) is July, 1926, for all three sets of figures in Bombay, and for average earnings at Sholapur; May, 1926, for average earnings, and August, 1926, for cost of living and real wages, at Ahmedabad; and February, 1927, for cost of living and real wages at Sholapur.

Average earnings at—					Bombay City	Ahmeda- bad	Sholapur
December, 1933	..	..	..	..	83	105-106	92
January, 1934	..	..	..	..	—	—	83
April, 1934	..	..	..	..	79	—	—
Cost of living at—					—	—	—
December, 1933	..	..	..	..	72	69	71
February, 1934	..	..	..	..	—	—	72
April, 1934	..	..	..	..	71	—	—
Real wages at—					—	—	—
February, 1933	..	..	..	..	131	—	—
December, 1933	..	..	..	..	115	154	130
February, 1934	..	..	..	..	—	—	115
April, 1934	..	..	..	..	111	—	—

So far as wages and the cost of living are concerned, this table shows that, taking into consideration the decrease in the cost of living, the real wages of cotton operatives in Bombay City were 15 per cent. in December, 1933, and 11 per cent. in April, 1934, above their level at July, 1926; in Ahmedabad, in December, 1933, they were 54 per cent. above their level at August, 1926; and in Sholapur they were 30 per cent. in December, 1933, and 15 per cent. in February, 1934, above their level at February, 1927. The reductions in real wages, in 1934, at Bombay City were wholly due, and at Sholapur were mainly due, to reductions in average money earnings.

The following table shows, for a number of the more important occupations, the average daily earnings in the three main centres of the Cotton industry in the Bombay Presidency at December, 1933, with corresponding information extracted from the results of

the inquiry of 1926. In both inquiries, earnings included basic pay *plus* allowances and *less* deductions for disciplinary fines

Occupation	Average daily earnings in					
	Bombay City		Ahmedabad		Sholapur	
	July, 1926	December, 1933	May, 1926	December, 1933	July, 1926	December, 1933
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Drawing tenters—						
male (piece)	1 4 8	1 2 8	1 1 3	1 3 11	0 12 4	0 12 11
female (piece)	—	—	0 15 8	1 2 4	—	—
Slubbing tenters—						
male (piece)	1 6 3	1 3 10	1 4 3	1 5 11	0 18 3	0 14 8
female (piece)	—	—	1 4 1	1 5 1	—	—
Inter tenters—						
male (piece)	1 4 6	1 3 2	1 2 0*	1 5 11*	0 12 9	0 13 2
female (piece)	—	—	0 15 10*	1 1 6*	—	—
Roving tenters—						
male (piece)	1 3 8	1 2 4	1 0 4†	1 3 1†	0 11 4	0 12 3
female (piece)	—	—	0 15 10†	1 3 10†	—	—
Ring siders—						
male (time)	1 0 3	—	0 15 2‡	1 0 10‡	0 11 5§	0 10 7§
female (time)	0 15 2	0 14 10	1 6 10	1 8 0	—	—
Tarawallas—						
male (time)	0 15 5	—	—	—	0 9 2	0 8 0
female (time)	0 14 3	0 13 2	{ —	—	—	—
Doffers—						
male (time)	—	—	—	—	—	—
female (time)	0 12 1	0 10 10	0 10 6**	0 11 7**	0 8 2**	0 7 3**
Weavers—						
male, 1 loom .. (piece)	—	—	—	—	0 14 6	0 12 5
2 looms .. (piece)	1 13 4	1 8 10	1 13 5	1 14 11	1 9 9	1 8 0
Winders, grey—						
male (piece)	—	—	0 14 10	0 12 1	—	—
female (piece)	0 11 9††	0 11 9††	0 11 9	0 10 11	0 6 2	0 4 11
Winders, colour—						
male (piece)	—	—	1 2 3	0 13 11	—	—
female (piece)	0 14 11	0 11 9††	0 14 6	0 12 11	0 6 6	0 6 4
Reelers—						
male (piece)	—	—	0 15 0	0 14 11	—	—
female (piece)	0 10 11	0 11 0	0 14 5	0 12 2	0 6 9	0 5 6
All workers	1 4 8	1 1 2	1 4 10	1 6 0	0 13 1	0 12 0

* Double side. † Two sides, time and piece workers. ‡ Single side, male and female. § Single side, males only. || Double side, male and female. ¶ Pliers ** Ring and frame doffers. †† Combined earnings of grey and colour winders.

Lancashire's Reorganization.

THE two schemes recommended by the Federation of Master Cotton Spinners' Associations are distinct, in that one is intended to unite all spinners of single cotton yarns into one Association in order that reorganization of the trade may proceed on ordered lines, whilst the other is designed to eliminate surplus spindles and thus ensure that production may be more closely related to demand.

The draft scheme for dealing with surplus capacity has been prepared by a sub-committee, representative of Federated and non-Federated firms, under the independent chairmanship of Lord Colwyn, and if approved by a sufficient majority of the industry, it is intended that it shall be submitted to the Board of Trade as the basis of an Act of Parliament.

The committee have based their scheme on the figures supplied by the Joint Committee of Cotton Trade Organizations, which show that in the first quarter of 1934, the industry possessed 13½ million spindles surplus to the requirements for full time running, of which 6½ million spindles were contained in active mills. Of the total of

13½ million spindles, 4 million are understood to be in the Egyptian section and 9½ million in the American section.

Although the committee believe that the removal of 8 million spindles would ensure a substantial improvement in working conditions, they propose, nevertheless, to deal with the problem boldly, by making their objective the complete elimination of 10 million spindles.

At an average price of 5s. per spindle, the sum required would be £2,500,000, of which it is estimated that there would be a return of one shilling per spindle or £500,000 from the sale of the scrap, leaving an estimated net requirement of £2,000,000. Should a millowner desire to retain his plant intact, provision is made, on his agreeing to keep his spindles stopped, for the sealing of machinery for a period of not less than five years, for which compensation would be paid by the Redundancy Board at a rate of not more than £500 per annum per 100,000 spindles.

In the opinion of the committee, 1,000,000 spindles should constitute the limit for sealing purposes.

The approximate amount of the annual levy to be borne by a mill is estimated at £657 per 100,000 spindles for an American mill and £511 per 100,000 spindles for an Egyptian mill, and the incidence per pound of yarn is estimated to be as follows:—

AMERICAN (Mule Weft)				EGYPTIAN (Mule Twist— counted Sakel)			
16's	..	..	·021d. per lb.	60's	..	..	·070d. per lb.
24's	..	..	·032d. "	70's	..	..	·086d. "
42's	..	..	·058d. "	80's	..	..	·104d. "
54's	..	..	·085d. "				

It is pointed out, however, that the burden which the scheme will represent should not be judged by the above figures as substantial savings would be possible through the concentration of products in mills running nearer to full time.

BOARD AND PERSONNEL.

The scheme will apply to all firms engaged in cotton spinning in Great Britain, and will contain provisions for the appointment of staff necessary for the operation of the scheme along with a Board of five individuals known as the "Surplus Spindleage Board."

The scheme will be directed by a full time, remunerated official who will be known as the "Administrator."

DECLARATION OF SPINDLEAGE.

Prior to the operation of the scheme all millowners will declare the total number of spindles under their control and whether they belong to the American or Egyptian section. No firm will be allowed to "switch" more than 10 per cent. of its originally declared spindleage from American to Egyptian, or vice versa, without the consent of the Board.

LEVIES.

During the continuance of the scheme, the Board will make levies which will be payable half-yearly in advance on all registered spindles, but, in the event of a firm giving notice that its spindles

will be idle for a period of not less than six months, then such firm will not be called upon to pay any levies due until the establishment is restarted.

Non-payment of levy will render a millowner liable to a penalty to be prescribed by the Act and any firm operating spindles without having paid its levy will similarly be liable to a substantial penalty. The levies will bear the ratio of 9 for the American section and 7 for the Egyptian section.

Provision is made for the recovery of levies and any penalties imposed by the Board by legal process. In the same clause, however, provision is also made for the setting up of an Arbitration Board of three persons, one of whom shall be nominated by the appellant, one by the Spindleage Board, and the third to be agreed upon by the two persons so nominated. Failing agreement, the third shall be nominated by the President of the Law Society of Manchester. No proceedings shall be taken until the arbitrators have made their award. The conditions under which the appeal tribunal will be convened should create a feeling of confidence amongst spinners, in that these provisions assume that a spinner will have a full and fair hearing of his case before resort is made to legal proceedings.

ERECTION OF ADDITIONAL SPINDLES.

The consent of the Surplus Spindleage Board will be necessary before any new plant can be erected. In the event of the Board refusing consent, applicants will have the right to appeal to a Board of Arbitration to be appointed by the Board of Trade.

Plant offered for sale will be classified as suitable for:—

- (a) immediate break-up, or
- (b) placing in reserve.

Plant placed in reserve will be available for purchase by the owners of registered spindleage by consent of the Board.

Under no circumstances shall surplus machinery be sold for shipment abroad, neither will there be any compulsion on the part of the Board to buy property offered, nor shall the owners of property be obliged to sell to the Board. The fact that the export of surplus machinery is prohibited should tend to keep down the purchase price of plant, in that its most obvious outlet will be sealed and there will be little disposition, on the part of the industry, to use such plant for substitution except at a low purchase price.

Information regarding plant must be furnished under a key number to an Accountant to be appointed by the Board, and any owner supplying false information or omitting to render returns when requested shall be liable to penalties.

PROPOSED SPINNERS' ASSOCIATION.

In submitting the scheme of the proposed Cotton Spinners' Association and that for dealing with surplus capacity in the spinning section of the English cotton industry, Mr. W. H. Catterall (President of the English Federation) made the following observations:—

"It is proposed to establish the Association in the event of owners of 90 per cent. of the total number of the spinning spindles concerned being agreeable to the proposals contained in the scheme.

"If the Association becomes an accomplished fact it will at the inception consist of *all* spinners of single cotton yarns in Great Britain. It will exclude looms, doubling spindles, or spindles engaged in the production of "Condensor" or "Bump" yarns. As stated, however, in the proposals, it is envisaged that at a later stage it may be found desirable or necessary to include such processes as condensor spinning, doubling, etc., within the provisions of the scheme, as the Committee consider that a definite liaison should be established between spinners and doublers for the purpose of assisting in stabilizing the trade.

"Immediately after the formation of the Association, the Executive Committee, consisting of 18 members—11 representing the American section—will be elected. Of the 18 members comprising the Executive Committee, six—three representatives from the American section and three representatives from the Egyptian section—will be nominated and elected, without ballot, by combines. The remaining 12 will be duly nominated and elected by the rest of the members, and no part will be taken by combines in the election of such 12 representatives. All nominations are to be supported by an equivalent spindleage of not less than 250,000. Voting will be confined to the spindles in the section to which the nomination relates.

"The proposals provide for the appointment of a chairman who has no interest in the cotton industry.

"Matters relating to each of the American and Egyptian sections of the trade will be dealt with separately. For this purpose it is proposed that two distinct Administrative Committees should be set up—one for the American section, and the other for the Egyptian section."

POWERS OF THE ASSOCIATION.

(1) To raise a levy not exceeding $\frac{1}{4}$ d. per spindle to meet the expenses of the organization.

(2) To call for such information as may be deemed necessary, to be supplied under key numbers to an independent chartered accountant.

(3) To divide producers into sections and to put working agreements into operation, if desired by 66 $\frac{2}{3}$ per cent. of the members in any particular section.

(4) To institute a quota system for the purpose of regulating production and preventing its sale below cost price.

(5) To arrange and impose the use of a Uniform Yarn Sales Contract.

(6) To set up committees for the purpose of:—

(a) Instituting a uniform system of costing throughout the trade.

(b) Increasing the efficiency of the industry.

(c) Considering suggested improvements in methods of manufacture and investigating new uses for cotton.

(d) Meeting and conferring with other organizations on matters affecting or relating to the cotton trade, and especially in exploring means of regaining lost markets.

(7) To provide means whereby the rules of the Association can be legally enforced.

(8) To co-opt persons to serve on sub-committees set up for any special purpose.

(9) To engage persons whom they consider possess special knowledge in any particular branch of the trade, with power to pay such persons for their special services.

The trade has been given one month in which to express its opinion by giving a plain "Yes" or "No" to the following two questions:—

Surplus Spindleage.

Are you in favour of the proposals set forth in the report of the Drafting Committee for dealing with surplus spindleage on the following understanding: "That the *maximum* levy, based on a mill of 100,000 spindles, shall be for those spindles that are in the American section £657 per annum, and for those spindles that are in the Egyptian section £511 per annum, these amounts being based on the maximum capital of £2,000,000 being required, the levy to be reduced proportionately according to whatever less sum may ultimately be required"?

Cotton Spinners' Association.

Are you in favour of becoming a member of the proposed Cotton Spinners' Association on the understanding that your affirmative answer shall in no way be binding until you have had the full articles of such an Association placed before you for your final approval and adherence?

THE NEW ROYTON AGREEMENT.

Prices of coarse counts of cotton yarn were raised $\frac{1}{2}$ d. per lb. on the Manchester Royal Exchange recently, bringing the quotations to the level of $2\frac{1}{2}$ d. per lb. above the futures price of the day, which was observed under the terms of the original "Royton Agreement." This advance in price has come about through a new agreement which has been unanimously adopted by those spinners who were members of the Coarse Counts Price Agreement. Several meetings had been held during the past few weeks, and this new agreement is the outcome. But it goes much further than the original. It is a legal document, signed and sealed by the firms in membership, all of whom undertake to abide by it, and to submit to penalties for breaches of agreement.

The agreement, which has been entered into by 31 mills, controlling about 3,000,000 spindles, is to be known as the Coarse Counts Agreement, and will remain in force for eighteen months from August 23, 1934. It covers all yarn output of counts of 26's

and below. It provides for establishing a general committee, and specifies that written authority shall be necessary for members' representatives. It sets out how the officials—a chairman, a vice-chairman, and an executive committee of five members—shall be nominated and elected, and what the duties of the general committee and of the executive committee shall be. It provides that any resolution shall be carried and binding on the whole of the members if supported by two-thirds of the members present and voting. The general committee will fix the minimum prices and the conditions of sale of the productions covered by the agreement.

An independent accountant is to be appointed by the general committee, and all members undertake to provide full facilities and assistance in order that he may investigate any or all sales made by the members; the investigation will be made regularly, and not only after complaints. He will have free access to all documents relating to sale prices, and it will be a breach of the agreement to refuse him this access.

Complaints of breaches are to be made direct to the accountant, who will make a special investigation of the circumstances and report to the general committee whether the complaint is justified or not. If a breach has been committed the executive committee will assess the amount of damage which the other members have suffered from it, and (subject to appeal) the secretary will be instructed to proceed by legal methods for the recovery of the damages assessed.

The maximum amount which may be claimed by way of damages, which are very substantial, is specified in the agreement. An arbitration board will be set up to give decisions on all questions arising as to quality. Provision is included for the payment of a small levy to cover expenses.

The Cotton Industry in Persia.

THE *Manchester Guardian Commercial* received from its correspondent in Persia the following interesting article describing the recent development of the cotton spinning and weaving industry:—

Cotton textiles and yarn have long headed the list of Persia's imports. They generally represented more than twice the value of any other commodity imported. For the past few years a definite effort has been made by the Persian Government to change this state of affairs and to start a modern cotton industry in Persia.

Persia is both a cotton-producing and cotton-exporting country. Though her production is still small, she can now also be described as a cotton-manufacturing country. All through the country, from the Caspian Provinces to the Gulf, cotton factories are springing up or are definitely planned for the future. In the case of yarn the local industry has developed so far that yarn is now on the prohibited list of imports.

At the present time Persia has about 30,000 spindles. The

largest cotton mill in the country is at Shahi, in Masanderan, right in the centre of one of the best cotton-growing districts. It is the private property of the Shah. Trading under the name of the "Royal Factory," it is a very privileged establishment. Labour and material can be arbitrarily commandeered by the Auguste Souverain. Indeed, nothing efficient is safe within reach of the factory's agents.

This royal cotton mill consists of a series of brightly painted modern looking buildings in a pretty Persian garden surrounded by a wall. The sentry mounting guard at the gate and the full-blown major in uniform who acts as director for the Shah are more typical of the spirit of the place than the flower garden. For in truth Shahi is little better than an armed camp from the point of view of the workers employed there. Their wages, at the best nominal (25s. per month), are very irregularly paid, but nevertheless they must stay at the job. If they bolt for the jungle, as occasionally happens, they are almost certain to be tracked down later by the police and their dogs.

Over a thousand workers are employed in this factory and two shifts are worked. In the spinning section most of the production is 20's. More yarn is produced than can be utilized in the weaving mill, and this is sold locally. Large quantities of material for the army—shirting, suiting, tenting, and so on—are manufactured here. The machinery is partly German, partly British. Hitherto no printed goods have been manufactured in Persia. Within the last few months an up-to-date dyeing and printing section has been installed at the Shahi factory by a German firm and is probably now operating. There are no women workers, but children are employed whenever they can be useful. Shahi will lose some of its lustre as the largest cotton factory in Persia if the Government plan to put up a larger mill in the neighbouring village of Ashraff materializes.

Ispahan, the famous and lovely town of Shah Abas, is also noted for its keen business men. In view of the many restrictions on trade and commerce and the general industrial policy of the present Government, two local groups of merchants decided to invest their money in the cotton industry. The older factory, established about eight years ago, produces both woollen and cotton cloths. It has 6,000 spindles. Large orders for uniforms and blankets are executed for the army, road guards, and police. I also saw some camel-hair rugs and woollen dress goods, which looked very nice.

About 1,000 workers are actually employed, but the factory is being considerably enlarged, and in a few months there will be room for about 500 additional workers. All the machinery in this factory is German. Nearby is the attractive-looking Kazarooni cotton-spinning mill, a new steel structure well-lighted and ventilated, which opened in 1934. It is equipped with the best British machinery and has 4,200 spindles. Vortex humidifiers are installed to regulate the atmosphere.

Two hundred and fifty men and boys and a few elderly women are employed. The man who showed me round explained that labour was so cheap that there was no need to employ women. Only one shift is worked, but a second will be started in a short time,

and there is accommodation for 2,000 spindles more in the mill. The average production is 20's and the output about 150 bundles a day. All the raw cotton used in these Ispahan factories is grown locally.

Five hundred kilometres south of Ispahan, across the desert road, lies Shiraz. Here a Persian merchant who spent 45 years of his life in Manchester shipping British piecegoods to Persia has built a really model little cotton mill. Everything in the place is British: the spinning machinery supplied by Oldham, the power engines by Metropolitan-Vickers. The mill is the joy of its owner's heart, and his personal interest is to be noted in many details of the organization. There are 250 workers (including many young children) and 4,200 spindles.

The factory is kept very clean and cool. Large rush mats, soaked in water, hang over the doors and windows to moderate the frightful glare of the sun. In a patch of ground attached to the factory experiments are being made in growing different kinds of cotton. At present the local Shiraz variety is found too coarse for manufacture and Filistan cotton from Northern Persia is used.

To meet the factory's requirements for water the enterprising owner has sunk a deep artesian well at his mill door. This is a blessing beyond price in the parched region of Shiraz. A large room has been provided for the workers to keep their clothes, rest, or eat in. They have washing facilities and proper water to drink—all of which arrangements are quite unique for Persia. Indeed, in no other factory did I see the slightest convenience of this kind for the workers.

The English engineer in charge told me that this mill had now achieved Lancashire's standards of production. As none of the workers had ever been inside a factory before he must have worn his fingers to the bone teaching them how to handle intricate machinery properly. There was every sign of prosperity about the mill. The total production for the next six months is already sold, and twice as much yarn could be disposed of if it were available.

It is intended to install a few hundred hand-loom in the near future, and so utilize the very skilful Shirazi weavers at a craft they have plied for centuries. This should be a very interesting and practical experiment. If more generally adopted in Persia it might in time obviate the unemployment which has hitherto followed the intensive introduction of cotton-weaving machinery in all industrialized countries.

It is reported from Bushire, Yezd, and Karman that plans are under consideration for the establishment of cotton mills there also. The cotton industry is attracting Persian merchants with capital to invest and who are profoundly depressed by the Government's commercial policy. They have lost heavily as a result of the many restrictions on trade in recent years, and are seeking new outlets for their money. They are only deterred from embarking on new industrial enterprises by a fear that the present Government policy may change. There is, of course, always the possibility of a return to a more liberal foreign trade policy. Nothing is very stable until at least after 1936, when a series of new commercial agreements must be made, which might conceivably contain concessions of a specific nature reacting on Persia's cotton industry.

GERMANY.

On July 19 the Minister for Economic Affairs issued an ordinance regulating and reducing working time in various textile branches, including the cotton-weaving mills. With minor exceptions, the ordinance prescribes that regular working time for workers employed on the principal operating machinery must be reduced by 30 per cent. as compared with the daily average for the first six months of 1934, but the new working time need not be reduced below 36 hours a week. If, however, a factory had an average working week of less than 36 hours during the first half of 1934, this average must not be exceeded. Supplemental provisions prohibit various branches of the textile industry, including cotton spinning and weaving mills, from establishing new factories or expanding already existing plants. "Unjustified price increases" are also prohibited. This latter measure resembles the order issued toward the end of March, 1934, and prohibits increases in prices of textile raw materials, and manufactured products made therefrom, beyond the limit justified by the increase in world raw material prices since March 21, 1934. Price increases are also permitted in the case of an increase in other costs, except where such increases are due to a decline in turnover not resulting from the present ordinance.

Separate regulations for the cotton-spinning mills were issued on July 20 by the cotton supervisory office under approval of the Minister for Economic Affairs. This ordinance provided that beginning with August 1, 1934, mill consumption of raw cotton and cotton linters will be permitted only to the extent determined by the supervisory office. Until cancelled, the mill consumption of cotton and cotton linters respectively is set at not more than 70 per cent. of the average mill consumption during the first quarter of 1934. The regulation is valid for raw cotton and for linters separately, and these products may not be substituted one for the other, at least within the allotted contingents. The contingent for raw cotton, theoretically, is also given for American, Egyptian, Indian and "other" cotton separately, but, actually, the mills are free to interchange these various types of cotton provided only that in such substitution 100 bales of American cotton are considered to equal 67 bales of Egyptian, 125 bales of Indian, or 22 metric tons of "other" cotton.

It is easy to see that these restrictions imposed upon the German cotton industry will reduce mill operations considerably, and, incidentally, raw material requirements.

AUTOMATIC LOOMS IN HUNGARY.

Referring to the International Cotton Loom Statistics, which the International Federation issued in July, 1934, the Hungarian Association of Cotton Manufacturers points out that in place of 60 automatic looms (as stated in the Loom Statistical Pamphlet),

the country possesses now approximately 2,000, and several thousand looms with automatic attachments.

WAGES IN THE FRENCH COTTON INDUSTRY (1932).

During the course of an extremely interesting report entitled "Economic Conditions in France" (June, 1934), compiled by Sir Robert Cahill, C.M.G., Commercial Counsellor to His Britannic Majesty's Embassy in Paris, the following paragraph appears, giving particulars of wages paid in the French cotton industry.

Operatives are mainly paid piece rates, but no national rates for similar work appear to be established, and as earnings tend to show wide variations as between different regions, average earnings are not easy to come by. In the Northern region (Lille-Roubaix-Tourcoing), where the general industrial conditions most nearly correspond with those in Lancashire as being most developed and as having local competition from the coal, iron and steel and engineering trades, the piece rates are subject to a sliding scale based on the movements in the cost-of-living index figures of the region. The 1932 report of the National Economic Council gives the following as normal hourly earnings in the Roubaix-Tourcoing region (these include some woollen workers' earnings): Unskilled, 3.28 frs.; carding spinners, 4.25 frs.; cotton spinners, 4.45 frs.; spinners of tops, 5.25 frs.; bobbin spoolers (women), 3.45 frs.; women warpers, 4 frs.; men warpers, 4.45 frs.; waste hands, 4.50 frs.; sizers, 4.30 frs.; men weavers, dress goods, 3.70 frs.; cloth, 3.90 frs.; women, dress goods, 3.50 frs.; cloths, 3.30 frs.; roughers (women), 3.60 frs. It is explained that the above earnings were obtained by dividing the total earnings of each class by the number of workers, multiplied by the number of hours worked, and that they were accepted as correct by the workers. To be added are family allowances, which were 60 frs. per month for a single child and reached 450 frs. in the case of five children. The wages earned and the family allowances in the Mulhouse area are lower (the latter being 32.75 frs. for one child and reaching 258.75 for five).

In September, 1930, hourly earnings for the following classes in a cotton spinning mill in the same Roubaix-Tourcoing area were: Carders, 3.35 frs.; drawers, 3.35 frs.; rovers, 3.10 frs.; spinners, 4.45 frs.; doffers, 2.15 frs.; reelers, 3.25 frs.; weavers of coloured cotton goods, 175 frs. per 48-hour week. Since 1930 textile wages appear to have fallen generally by 7 to 10 per cent. in the Northern area. At that date an enquiry in the Lille region revealed that the coefficient of the hourly wage compared with 1914 ranged from a minimum of 7 to a maximum of 10 for men and from 9 to 11 for women.

GREECE.

A recent report issued by the U.S. Department of Commerce stated that during 1933 two new textile mills were opened in Greece and 50 other mills were enlarged or improved their plants

and equipment. At the close of the year the country had 365 textile establishments with 291,088 spindles and 6,779 looms. Most of the spindles are in cotton mills. The total production of the textile industry during 1933 was valued at 2,460,000,000 drachmas, as against 1,856,000,000 drachmas in 1932. (The drachma averaged \$0.0075 in 1932 and \$0.0069 in 1933.) The principal items in this production were. —

GREEK TEXTILE PRODUCTION

Commodity	1932		1933	
	Quantity	Thousand Drachmas	Quantity	Thousand Drachmas
Cotton yarn (kgs)	10,080,000	425,370	11,150,000	541,300
Cotton thread (doz. packs) ..	100,000	5,000	180,000	10,800
Cotton fabrics (metres) ..	23,680,000	308,550	20,000,000	390,000

Greek textile exports consist largely of cotton yarn, silk, and silk fabrics and carpets, the total value in 1933 having been 79,000,000 drachmas, compared with about 33,000,000 in 1932. Imports of textiles (including textile raw materials) in 1933 were valued at 1,614,058,000 drachmas, of which Great Britain supplied 705,576,000 drachmas, Italy 176,091,000, United States 111,692,000, India 103,468,000, Belgium 100,331,000, France 93,896,000, and Germany 86,981,000. British textile exports to Greece consist largely of manufactures, such as yarn, thread, and fabrics, and include only a few raw materials. Italy also supplies chiefly finished textiles. Raw cotton accounts for about 96 per cent. of the total value of imports from the United States. India is also an important supplier of cotton as well as jute and burlap. Germany is the leading source of hosiery imports, besides supplying certain quantities of printed voiles, wool, wool yarn and fabrics.

CHINA.

The import duty on raw cotton in China was increased, beginning July 3, from \$1.05 per 100 lbs. to \$1.50 per 100 lbs., according to recent advices. This increase of import duty represents another step in the upward movement of the Chinese tariff on raw cotton, which began in 1929. The new increase in the duty is apparently intended as a step towards increasing prices for native cotton as well as the customs revenue. (U. S. D. C.)

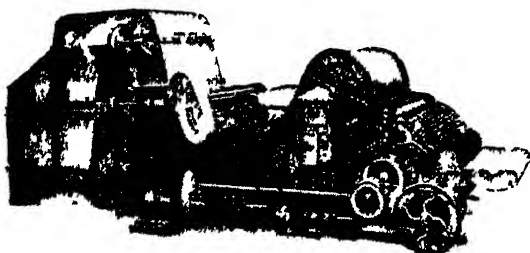
CZECHO-SLOVAKIA.

SPINNERS' OUTPUT QUOTA.

The production quota for the September-November quarter has been fixed by the Cotton Spinners' Cartel at 60 per cent. (unchanged), which represents about 45 per cent of the productive

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COMPLETE EQUIPMENT OF TEXTILE MILLS

Complete Equipment of Power Plants and Substations. Gas Engines. Steam Boilers. Steam Engines. Machine Tools and Small Tools. Lifting and Weighing Apparatus. Machines and Apparatus for the Chemical Industry.

capacity of the mills. Negotiations have been initiated concerning the renewal of the cartel agreement, which expires at the end of the year.

MEXICO.

Mexican cotton spinners may import up to 20 per cent. of their raw cotton consumption in fibres over 40 millimetres (1.57 ins.) in length at a duty of 10 centavos (instead of 40 centavos) per gross kilo of 2.2046 lbs., according to a decree appearing in the *Diario Oficial* of the Mexican Government on June 28, amending the import duty on raw cotton. The change was made to enable local mills to produce yarn and finer fabrics which at present are mainly imported. According to the official press statement relative to the change, the value of imported yarns declined from 6,176,828 pesos in 1926 to 2,726,282 pesos in 1931, and imports of fabrics dropped from 19,965,545 pesos in 1925 to 3,316,230 pesos in 1931, indicating the growth of Mexico's textile industry.

(U.S. Department of Commerce.)

ARGENTINE.

The cotton industry is reported to be in a prosperous condition, with some of the mills operating three shifts. Local mills are said to be unable to supply the domestic demand for cotton goods. Domestic consumption of cotton, estimated to amount to 10,000 to 12,000 metric tons (of 2,204.6 lbs.) a year at present, has increased about 50 per cent. during the past few years. Owing to continued additions to the existing spindleage, the local trade expects a further increase in the near future. The development of the local cotton textile industry has been stimulated by the high cost of foreign goods consequent on peso depreciation and the difficulty experienced in obtaining foreign exchange for imports.

(U.S. Department of Commerce.)

ORGANIZED SHORT TIME FOR SWISS MANUFACTURERS.

The Swiss cotton industry is to go on short time for a six months' period. Members of the Swiss cotton spinners, doublers, and weavers' Association have agreed to restrict production as from November 1 to April 30 in view of bad trade, says the *Frankfurter Zeitung*.

Production is to be restricted by 20 per cent. for the first 100 looms, by 25 per cent. for the next 100 looms, and by 33½ per cent. for any further looms. This is calculated on the basis of the 48-hour week, single-shift working.

COTTON TRADE STATISTICS

INDIA.

A survey of the import trade of India for the three months April 1 to June 30, 1934, prepared by H.M. Senior Trade Commissioner in India, gives the following particulars relating to cotton textiles :—

Cotton Yarns.—The total imports fell from 10,546,379 lbs. valued at Rs.79 lakhs to 9,604,251 lbs. valued at Rs.82 lakhs. The share of the United Kingdom fell in quantity from 2,552,002 lbs. to 2,272,212 lbs., and the values rose slightly from Rs.24½ to Rs.25½ lakhs. Imports from Japan dropped from 3,636,044 lbs. to 3,388,933 lbs., but the values rose from Rs.28 to Rs.31 lakhs. In the case of China, imports fell quantitatively from 4,268,100 lbs. to 3,909,400 lbs. and in value from Rs.26 to Rs.25½ lakhs.

Grey Piecegoods (plain grey).—The total imports rose from 44,514,307 yards (Rs.55½ lakhs) to 47,126,201 yards (Rs.62½ lakhs). Arrivals from the United Kingdom fell sharply from 8,055,272 yards (Rs.11 lakhs) to 6,561,212 yards (Rs.9 lakhs). On the other hand, imports from Japan rose from 36,350,861 yards (Rs.44 lakhs) to 40,277,769 yards (Rs.53 lakhs).

Grey Piecegoods (bordered greys).—The aggregate imports slumped heavily from 37,183,500 yards (Rs.50 lakhs) to 21,621,976 yards (Rs.30½ lakhs). Imports from the United Kingdom dropped from 20,635,549 yards (Rs.32 lakhs) to 11,688,377 yards (Rs.18½ lakhs). Imports from Japan likewise fell from 16,547,960 yards (Rs.18 lakhs) to 9,909,299 yards (Rs.12 lakhs).

White Piecegoods (bleached).—Here again there was a contraction in the total trade from 88,306,166 yards (Rs.150 lakhs) to 70,291,776 yards (Rs.137½ lakhs). Arrivals from the United Kingdom fell slightly in quantity from 62,019,279 yards to 61,363,865 yards but, owing to improved prices, the values rose from Rs.112 lakhs to Rs.119½ lakhs. Arrivals from Japan fell heavily from 25,030,657 yards (Rs.30½ lakhs) to 7,275,216 yards (Rs.11½ lakhs), and it would appear that the quota restriction is beginning to show its effect. There was a slight improvement in imports from the Netherlands from 514,961 yards (Rs.1½ lakhs) to 617,520 yards (Rs.1¾ lakhs). Imports from Switzerland also improved from 466,680 yards (Rs.1¾ lakhs) to 681,743 yards (Rs.3 lakhs).

Printed Piecegoods.—Total arrivals rose from 33,906,877 yards (Rs. 56½ lakhs) to 35,811,047 yards (Rs. 61½ lakhs). It is satisfactory to note that the United Kingdom share advanced from 13,302,835 yards (Rs. 32 lakhs) to 16,249,178 yards (Rs. 36½ lakhs). The share of Japan remained stationary and fell in quantity from 20,539,116 yards to 19,278,333 yards, but rose slightly in value from Rs. 24½ to Rs. 25 lakhs. Imports from "other countries" were negligible.

Dyed Piecegoods.—Here again a total improvement is to be recorded from 28,476,816 yards (Rs. 65 lakhs) to 30,155,092 yards (Rs. 17½ lakhs). The United Kingdom share improved materially from 21,097,163 yards (Rs. 53½ lakhs) to 25,168,950 yards (Rs. 62½ lakhs). By contrast, arrivals from Japan dropped from 6,065,763 yards (Rs. 10½ lakhs) to 3,949,518 yards (Rs. 6 lakhs). Arrivals from Switzerland also improved from 63,596 yards (Rs. 33,000) to 378,334 yards (Rs. 1½ lakhs). Arrivals from Italy, however, fell in quantity from 167,863 yards to 108,738 yards, but rose slightly in value from Rs. 44,659 to Rs. 45,529.

Woven Coloured Piecegoods.—The aggregate trade fell in quantity from 8,054,899 yards to 7,678,041 yards, but rose in value from Rs. 18½ to Rs. 19½ lakhs. Here again the United Kingdom share showed an improvement from 3,083,803 yards (Rs. 10 lakhs) to 3,204,406 yards (Rs. 11 lakhs). Arrivals from Japan fell from 4,905,429 yards (Rs. 8 lakhs) to 4,291,813 yards (Rs. 7½ lakhs). Arrivals from "other countries" were negligible.

Fents.—The total imports of fents rose from 6,944,088 yards (Rs. 8½ lakhs) to 9,513,165 yards (Rs. 15 lakhs). Imports from the United Kingdom remained fairly stationary, advancing only from 2,231,644 yards (Rs. 3½ lakhs) to 2,631,505 yards (Rs. 4 lakhs). Arrivals from the U.S.A. fell from 3,639,285 yards (Rs. 3½ lakhs) to 1,764,436 yards (Rs. 1¾ lakhs). The outstanding feature of the period, however, was the remarkable advance in imports from Japan from 1,013,682 yards (Rs. 1 lakh) to 5,062,009 yards (Rs. 9 lakhs). As fents are not included in the Japanese quota, these figures should be watched with some care.

Cotton Sewing Thread.—There was a slight improvement in the total trade from 460,761 lbs. (Rs. 12 lakhs) to 487,849 lbs. (Rs. 13 lakhs). Imports from the United Kingdom fell slightly from 402,401 lbs. (Rs. 10½ lakhs) to 384,446 lbs. (Rs. 10½ lakhs). Arrivals from "other countries" rose from 58,360 lbs. (Rs. 1½ lakhs) to 103,403 lbs. (Rs. 2½ lakhs).



MISCELLANEOUS

COTTON CURING MATS.

We reproduce the following statement from a recent edition of the *Cotton Trade Journal*:—

The use of cotton mats for "curing" the concrete to be laid on highways of Texas was prescribed in the contracts awarded for four major highway projects at the recent monthly meeting of the State Highway Commission, when awards totalling \$2,119,305 were granted. This requirement was inserted in the contracts after a series of experiments which demonstrated that the cotton mats are superior to burlap mats or to coverings of dirt and sand in many respects. The Federal Bureau of Public Roads also has authorized the adoption of cotton mats on its projects, it was stated.

It is claimed that cotton mats reduce the length of time required for curing the concrete from ten to six days; that they more effectively insulate freshly laid concrete against the heat of the sun than any other material, requiring much less wetting than burlap mats, which are made of jute; that they increase the flexural strength of the finished road by approximately 13 per cent. by allowing the concrete to hold its moisture content uniformly; and that the wearing qualities of the cotton mats are about three times that of burlap. The mats are now being manufactured in Eastern cotton mills at comparatively low cost.

ARGENTINA.

The Argentine Congress is considering a Bill requiring that all flour sacks used for handling flour be put up in bags made from Argentine cotton. At present, it is estimated, about 25 per cent. of the local crop is used within the Republic for the manufacture of rugs, clothing, footwear, and other articles. (U. S. D. C.)

Adulteration of Raw Cotton in China.

At the sixty-fifth meeting of the Legislative Yuan, held on June 29, a set of revised regulations governing the prohibition of watering and adulteration of raw cotton was passed. The new regulations (now pending promulgation by the National Government) are freely translated as follows:—

Art. 1.—The standard water content for raw cotton produced in China shall be 11 per cent.

Art. 2.—The maximum water content for China cotton bought and sold on the home market shall be 13 per cent.

Art. 3.—Transactions in China cotton which has a water content exceeding the maximum limit are prohibited.

Art. 4.—Those who water and adulterate cotton with the intention of making illegal profit shall be punished with a term of imprisonment of not more than three years and/or a fine not exceeding \$1,000.

Art. 5.—For convenience of reference, the names of mills and brokers shall be "chopped" on the wrappings of cotton-bales handled by cotton mills, packing houses, or cotton brokers (hongs).

Art. 6.—Cotton mills, packing houses, or cotton brokers found buying cotton having a water content exceeding the maximum limit, shall be proceeded against in the Courts and subjected to a fine not exceeding \$2,000, the transaction declared dissolved, and use of the cotton prohibited.

Art. 7.—A reduction in price shall be made by the cotton mills, when buying cotton with a water content over the standard but not exceeding the maximum limit, while an increase shall be made in case the water content is less than standard. Both reduction and increase of price shall be in proportion to the actual water content of the cotton.

Art. 8.—Transactions, either spot or forward, and the use of cotton shall be stopped if the consignment concerned contains seed and other impurities amounting to 0.5 per cent. more than the standard or the limit agreed upon by both parties. In addition, the seller shall be punished with a fine of not more than \$2,000.

Art. 9.—The price of cotton containing seed and other impurities 0.5 per cent. more than the standard or the limit agreed upon by both parties shall be reduced by twice the percentage of the adulteration.

Art. 10.—The price of fine fibre cotton mixed with coarse fibre cotton shall be fixed according to the quotations set for the coarse fibre.

Art. 11.—Raw cotton may be exported only after being inspected and found up to standard by the proper inspection and testing authorities.

Art. 12.—The Cotton Industry Commission of the National Economic Council and the various Bureaux of Inspection and Testing of Commercial Commodities shall be authorized with power to despatch representatives to the various mills and packing houses to carry out inspection work.

Art. 13.—Inspection representatives, if found during the process of inspection, accepting bribes or making unreasonable complaints, shall be punished in accordance with the criminal law. If such actions affect the financial interests of the merchants the inspection representative concerned shall be responsible for the money thus lost.

Art. 14.—The date of promulgation of the present regulations shall be made public by separate order.

(Chinese Economic Bulletin.)

RAYON OUTPUT.

A recent estimate of the world's rayon production is published below. Substantial increases, as will be seen, have occurred in Japan, Italy, Germany, and France. It should be remembered that these figures are estimated only, and are subject to revision later.

		1934	1933
		lbs.	lbs
United States	.. ..	195,000,000	208,000,000
Japan	.. ..	133,000,000	89,165,000
Italy	.. ..	91,500,000	80,990,000
Germany	.. ..	87,500,000	76,000,000
Great Britain	.. ..	86,610,000	84,300,000
France	.. ..	72,500,000	53,000,000
Holland	.. ..	25,100,000	22,000,000
Switzerland	.. ..	10,000,000	12,000,000
Canada	.. ..	9,520,000	7,820,000
Belgium	.. ..	8,600,000	8,925,000
Other countries	.. ..	24,670,000	18,355,000
Total	.. ..	744,000,000	660,553,000

‘SOIE ARTIFICIELLE’ BAN IN FRANCE.

According to the terms of a Bill recently passed by the French Chamber of Deputies, the use of the word “soie” (silk applied to yarns, fabrics, etc., with or without qualifying adjectives) is forbidden unless the articles in question are composed exclusively of products of the silk-worm.

Although the point was raised that the term “soie artificielle” (artificial silk) was sufficiently clear and did not lead to confusion in the mind of the buyer, the Chamber voted to prohibit the use of this term, and such materials must in future be designated under another name, if, as is anticipated, the Senate adopts the measure passed by the Chamber.

The Bill passed by the Chamber also provides that yarns, fabrics, and other articles composed of 50 per cent. pure silk should be labelled mixed silk, while those containing between 25 per cent. and 50 per cent. silk should bear the name of the principal textile fibre, followed by the words “mixed with silk.” Fabrics whose warp, weft or nap is entirely silk may be designated silk warp, silk weft or silk nap.

Other yarns, fabrics and articles not covered in these classifications may in no case be given a name including the word “soie” unless the designation describes the textile material and shows the exact proportion of silk used in the mixture.

JAPANESE EXPORTS CONTROL.

In order to put the Japanese-East Indies trade in cotton cloth under effective control a special export association was formed in September which, together with a similar association for the Indian trade, completes arrangements for export trade regulations with Japan's two major cotton goods outlets. While these measures of self-restraint necessarily entail reduction in business with long-established and large markets, the loss of trade there is rapidly being made good by the opening of new markets in many parts of the world. Cotton manufacturers and exporters are not inclined to a pessimistic view of the export outlook. From the standpoint of production less optimism prevails. The movement to increase spindleage is making rapid progress, and output curtailment programmes are becoming less rigid, which facts taken together should accelerate production—in the view of the pessimists—to unwieldy proportions.

(Oriental Economist.)

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AMERICAN COTTON—NOVEMBER CROP REPORT.

The report on the American cotton crop, issued on November 8 by the Washington Department of Agriculture, indicates a probable production of 9,634,000 bales, exclusive of linters. This is 191,000 bales larger than the estimate of a month ago, when it was 9,443,000 bales. The crops actually harvested in the two previous years were 13,047,000 bales grown in 1933 and 13,002,000 bales in 1932. The average yield per acre is estimated at 169.3 lbs., against 165.9 lbs. in the last report and 208.7 lbs. in last year's November report. The growth in Lower California, which is not included in the United States total, is estimated at 18,000 bales, against 18,000 bales harvested last year.

The following table gives details of production by states with comparison (in thousands of bales):—

	Nov. 1 1934	Oct. 1 1934	1933 crop	1932 crop
Virginia	35	36	37	34
North Carolina	650	646	684	660
South Carolina	695	695	735	716
Georgia	980	970	1,105	854
Florida	28	24	28	17
Missouri	225	195	253	307
Tennessee	385	370	443	480
Alabama	980	980	969	947
Mississippi	1,120	1,100	1,159	1,180
Louisiana	490	480	477	611
Texas ..	2,390	2,345	4,428	4,500
Oklahoma	350	370	1,266	1,084
Arkansas	860	810	1,041	1,327
New Mexico	80	77	94	72
Arizona	104	104	96	69
California	250	230	217	129
Other States	12	11	15	15
Total	<u>9,634</u>	<u>9,443</u>	<u>13,047</u>	<u>13,000</u>

BUREAU COMMENTS.

The Washington Department of Agriculture says that conditions in October were much more favourable than usual, and picking and ginning of the cotton crop progressed rapidly in all states, while there were virtually no losses of open cotton in the fields.

The Census Bureau reported that up to the close of business on October 31 a total of 7,920,000 bales of this year's crop had been ginned, as against 10,355,031 bales at the corresponding date last year.



Reviews on Current Cotton Literature.

"HIGH DRAFTING IN COTTON SPINNING: THEORY AND PRACTICE," by J. Noguera. Casablanca High Draft Co. Ltd., Manchester. 4s. net. 113 pages.

The author of this interesting book has preferred to deal exhaustively with one system, namely, the Casablanca, with which he is able to speak with full authority; he does not adopt the usual method of describing this subject by reviewing the various high-draft mechanisms in detail; nevertheless, the theory of drafting in general, and the development of high drafting proper are studied as extensively as space permits. In addition, some practical considerations, especially for mill managers, have been made at the end of the book.

This treatise is well illustrated with line drawings, and should prove of much interest to all cotton-mill men.

This book is also obtainable in French and Spanish.

"THE YORKSHIRE TEXTILE INDUSTRY." Printed and published by John Worrall Ltd., Oldham. Price 15s., post free; 17s. abroad.

Messrs. John Worrall Ltd. are deserving of the warmest congratulations of the textile trade upon the fiftieth annual edition of this work. Like all its predecessors, it is a veritable vademecum concerning the separate activities of the Yorkshire textile industry (cotton, wollen, jute, etc.).

"REPORT ON THE SECOND CONFERENCE ON COTTON-GROWING PROBLEMS." Published by the Empire Cotton-Growing Corporation. Price 2s. 6d., post free.

The report contains copies of the papers submitted to the second Conference on Cotton-growing problems, held in London in July last, and the verbatim report is also included.

Among the subjects thus treated were the following: Plant breeding and genetics; Crop experimentation and statistical treatment; Cotton pests; Cotton diseases; Botanical problems; Fibre properties of cotton; Soil problems.

"DAVISON'S TEXTILE BLUE BOOK, 1934." Published by the Davison Publishing Co., 50, Union Square, New York.

The sixty-ninth annual edition of this directory has recently made its appearance, and should prove of the greatest assistance to all those concerned with the cotton industry in U.S.A., Canada and Mexico. It contains, in its usual comprehensive form, particulars arranged by states showing the number of spindles, looms, cards, combers in the cotton mills of the aforementioned countries, together with a list of the textile associations, cotton merchants, and a buyers' guide to textile supplies. Prices :

Office edition, \$7.50; handy edition, \$5.00; Salesmen's Directory (mills only), \$4.00; foreign countries 50 cents extra.

"COTTON: FROM THE RAW MATERIAL TO THE FINISHED PRODUCT." By R. J. Peake; revised and enlarged by H. P. Curtis, F.T.I. Published by Sir Isaac Pitman & Sons Ltd. Price 5s. net.

In these days, when the cotton industry is pre-eminently to the fore in the newspapers of the land, when its many ramifications are matters of everyday topical interest, there has arisen a need for some kind of a guide book, so to speak, to this great industry, written as far as possible in non-technical language, so as to make it easily understandable to the man in the street. This book fills such a requirement. The present edition, greatly revised and enlarged since the first edition appeared in 1917, presents in an easily understood yet comprehensive form all the main aspects of the trade, such as cotton-growing, spinning, winding, warping and weaving; bleaching, printing and dyeing; market distribution of yarn and cloth; employers' and operatives' organizations, etc.

"THE EMPIRE COTTON-GROWING REVIEW," October, 1934. Published for the Empire Cotton-Growing Corporation by P. S. King & Son Ltd., 14, Great Smith Street, London, S.W.1. Quarterly: Price 1s. Annual subscription, 5s., post free.

Among the prominent features of the current issue of the *Review* are the following:—

A report of the Second Conference of Workers on Cotton-growing Problems.

The Cotton Crops. Variety of Supplies. By J. A. Todd.

Leaf-curl Disease of Cotton in the Sudan. By M. A. Bailey.

The Time to Plant Cotton in Nyasaland. By H. C. Ducker.

The Work of the St. Vincent Cotton Station. By S. C. Harland.

"ANNUAL COTTON HANDBOOK." Published by Comtelburo Ltd., 11, Tokenhouse Yard, London, E.C.2. Price 5s. 2d., post free.

The sixty-fourth issue of this publication, which is invaluable to all those who are interested in the cotton industry, contains statistics for all growths of cotton for which figures are available, and provides a wealth of information concerning cotton and the cotton industry in all parts of the world. All previous statistics are maintained, and have been revised and brought up to date in accordance with the latest details available.

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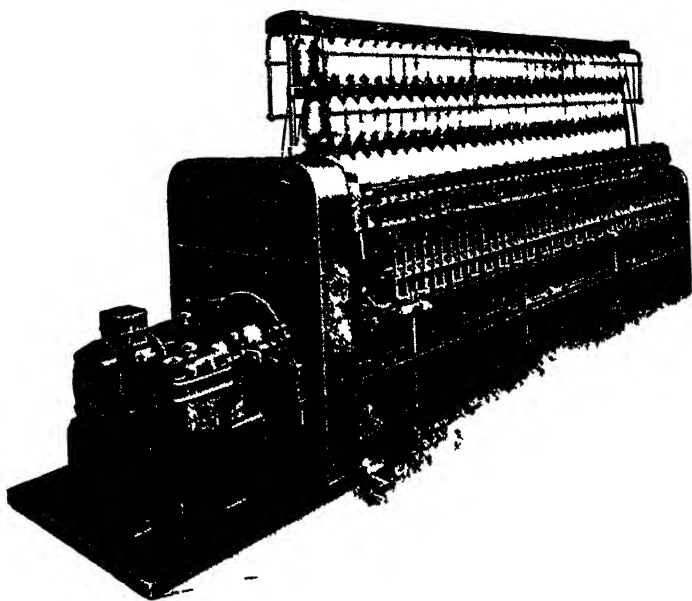
"ECONOMIC CONDITIONS IN NORWAY, MAY, 1934." Report by C. L. Paus, C.B.E., Commercial Secretary to H.M. Legation at Oslo. Published for the Department of Overseas Trade by H.M. Stationery Office. Price 2s. 6d. net.

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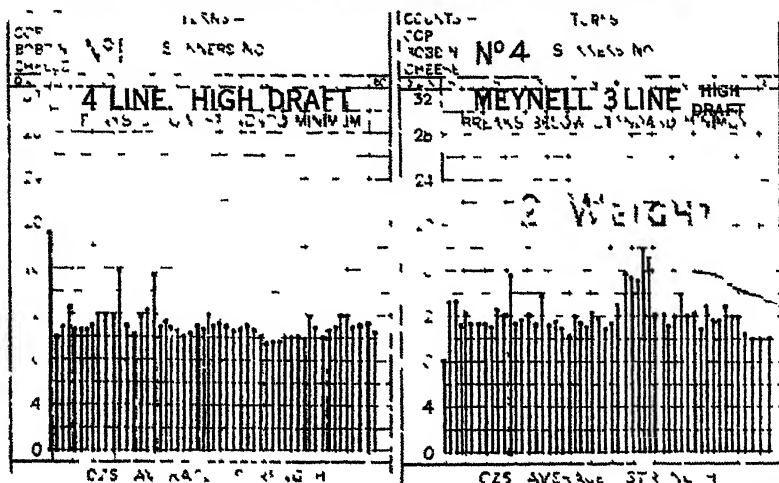
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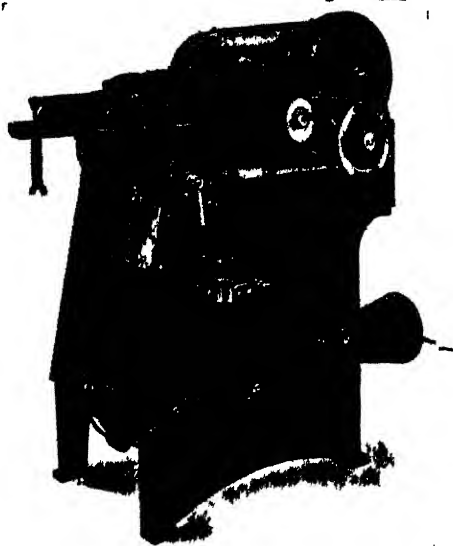
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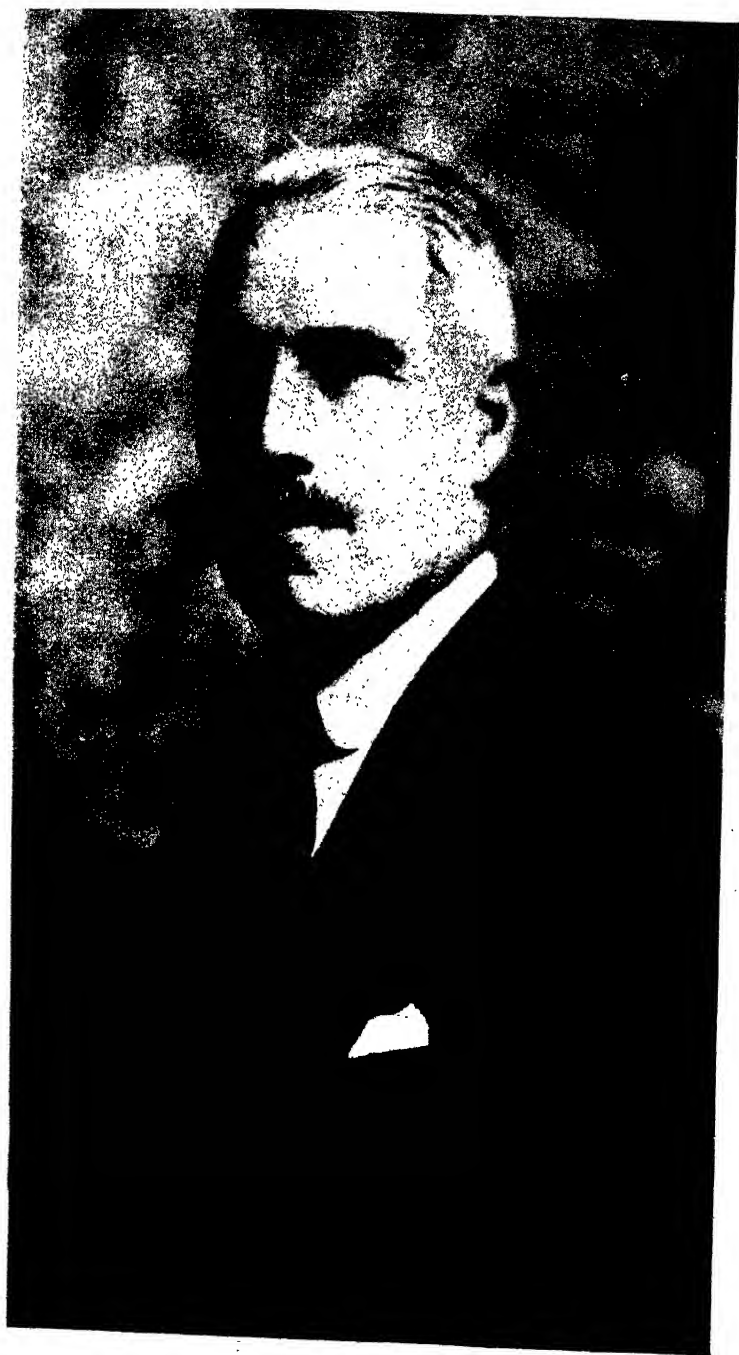
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12 Exchange Street, Manchester

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Grand Ufficiale Dr. GIORGIO MYLIUS

INTERNATIONAL COTTON BULLETIN

No. 50, Vol. XIII, 2.

January, 1935.

Published quarterly by the International Federation of Master Cotton Spinners' and Manufacturers' Associations, Manchester. Edited by N. S. Pearse, General Secretary, Manchester. The Committee of the International Federation of Master Cotton Spinners' and Manufacturers' Associations do not hold themselves responsible for the statements made or the opinions expressed by individuals in this Bulletin.

COMMITTEE'S COMMUNICATIONS.

PROVISIONAL PROGRAMME

International Cotton Congress

MILAN—ROME

APRIL 29th—MAY 4th, 1935

PRESIDENT OF THE CONGRESS:

ON. AVV. PROF. GINO OLIVETTI

*President of Associazione Italian Fascista degli Industriali
Cotonieri, and Deputato al Parlamento.*

The Congress proceedings will take place in Rome, in the Conference Hall of the International Institute of Agriculture, but delegates will assemble in Milan on April 29, proceeding on Tuesday, April 30, to Genoa, for embarkation on the s.s. "Conte di Savoia," which has been specially chartered for the occasion, and then proceed to Naples and Rome.

For subjects to be discussed at the Congress please refer to pp. 3 and 4 of the INTERNATIONAL COTTON BULLETIN, No. 49, for October, 1934.

Provisional Programme:

SUNDAY, April 28th.

The day to be devoted to meetings of the JOINT EGYPTIAN COTTON COMMITTEE at the Offices of the Italian Cotton Association, Via Borgonuovo 11, Milan.

MONDAY, April 29th.

International Cotton Committee Meeting, in the morning. If necessary, Meeting of Joint Egyptian Cotton Committee in the afternoon.

During the course of the afternoon an organized visit to the R. Stazione Sperimentale per le Industrie della Carta e delle Fibre Tessili Vegetali (Royal Experimental Station for the Manufacture of Paper and Vegetable Fibres) will be made.

Reception of all Congress delegates by the Mayor of Milan, in the Town Hall, at 6 p.m.

TUESDAY, April 30th.

Journey from Milan to Genoa by special train in the morning.

Luncheon at Genoa.

Embark on s.s. "Conte di Savoia" at 2 p.m. Sail at 3 p.m. prompt for Naples.

Banquet offered on board to all Delegates and ladies by the Italian Cotton Association during the course of the evening.

WEDNESDAY, May 1st.

7 a.m., Arrival in Naples. All Delegates must disembark, together with their baggage, no later than 8-30, as the boat is due to sail for the United States later in the day. Morning free, available for individual excursions. Motor charabancs will be available at the Delegates' expense to visit Pompei, Vesuvius, etc.

Late afternoon: A special train will convey the Delegates to Rome.

THURSDAY, May 2nd.

10-30 a.m. Official Opening of the Congress.

2-30 p.m. First Session of the Congress.

FRIDAY, May 3rd.

9-30 a.m. Second Session of the Congress.

2-30 p.m. Third Session of the Congress.

SATURDAY, May 4th.

10-0 Final Session of Congress. Resolutions.

Close of Congress.

SPECIAL NOTICE.

Ladies are invited to attend the Inaugural Reception of the Congress and all social functions. It is intended to forward to each delegate, before the Congress, an identity card, together with the official programme. Admission tickets to the social functions will not be sent by mail to the delegates, who are asked to call for these admission tickets, and also for their Congress badges, railway, boat tickets, etc., at the Information Bureau in Milan, on or before April 29. Delegates will take this opportunity of registering their names and the name of their hotel in Rome with the officials in charge of the Bureau.

Should any delegate not be able to join the Congress party at Milan, the Head Office of the International Cotton Federation, 26, Cross Street, Manchester, or the Secretary of the Italian Association, at 11 Via Borgonuovo, Milan, should be informed of this fact at the earliest possible opportunity.

INFORMATION OFFICE.

The Information Office will be opened from 9 a.m. on the following days, at the following places:—

SUNDAY, APRIL 28 ...	}	Offices of the Italian Association, 11, Via Borgonuovo, Milan.
MONDAY, APRIL 29 ...		
TUESDAY, APRIL 30...		On board s.s. "Conte di Savoia."
THURSDAY, MAY 2 ...	}	At 14, Via Sardegna, Rome.
FRIDAY, MAY 3 ...		
SATURDAY, MAY 4 ...		

Detailed information relating to the meetings of the Congress will be available at this Bureau. A representative of the travel agencies will be in attendance at the Bureau to give information in regard to excursions in Naples and Rome and to make reservations for same.

HOTEL ACCOMMODATION.

All delegates, with the exception of the International Cotton Committee and the Joint Egyptian Cotton Committee, will make their own hotel arrangements in both Milan and Rome. Delegates are advised to make their hotel reservations early, owing to the proximity of the Congress to the Easter holidays. Notice of any reservation made should be forwarded to the Secretary of the Italian Cotton Association, Via Borgonuovo 11, Milan. A list of hotels, etc., together with prices charged, follows:—

HOTELS IN MILAN.

Price of Room, complete with Breakfast and taxes

HOTELS DE LUXE AND A1. CLASS			Single Rooms		Double Rooms	
			Without Bath	With Bath	Without Bath	With Bath
			Lira	Lira	Lira	Lira
Hotel Continental	..	Via Manzoni	37	57	64	85-95
Hotel Excelsior ..	..	Gallia presso la Stazione Centrale	37	57	64	85-95
Hotel Cavour ..	..	Piazza Cavour	43	54	84	104
Grand Hotel et de Milan		Via Manzoni	35	45	60	75
Albergo Principe e Savoia		Piazzale Fiume	33	50	65	90
Hotel Touring ..	..	Piazzale Fiume	27	38	54	65
Hotel Majestic Diana	..	Viale Piave	33	43	50	70
Grand Hotel de la Ville	..	Corso Vitt. Emanuele	30	45	55	80
Palace Hotel ..	..	Piazzale Fiume	32	42	62	75
Bertolini Hotel Europa	..	Corso Vitt. Emanuele	30	40	48	58
Hotel du Nord & des Anglais		Piazzale Fiume	..	31	45	57-50 79-50

HOTELS IN ROME

		Singl With it Bath Lira	Room With Bath Lira	Doubl With ut Bath Lira	R om With Bath Lira	Break fast Lira	Laues
HOTELS DE LUXE							
Falckson	Via Veneto	fr n to 85	from 36 to 46	fr m 36 to 46	fr n 4 to 5	()	1
Grand Hotel	Via delle Terme						
Hotel Plaza	Corso Umberto						
Hotel Ambrosiano and Palazzo	Via Veneto						
HOTELS ALL CLASSE							
Hotel Regina	Via Veneto						
Hotel Quirinale	Via Nazionale						
Hotel Bristol	Piazza Barberia						
Albergo di Roma	Via Babuino						
Hotel Royal	Via XX Settembre						
Hotel Savona	Via Boncompagni						
Hotel Marini	Via del Tritone	from 20 to 25	from 26 to 36	from 32 to 42	from 4 to 5		
Hotel Continental	Via Cavour						
Hotel Flora	Via Veneto						
Hotel Minerva	Piazza Minerva						
Hotel Pace and Livia	Via 4 Novembre						
Hotel Eden	Via Boncompagni						
Hotel Umberto	Corso Umberto						

SPECIAL TRAVELLING FACILITIES

Arrangements are being concluded whereby all railway fares in Italy and the cost of the passage on the "Conte di Savoia" will be subject to a special reduction.

The "Conte di Savoia" is a vessel of 45,000 tons, and is one of the two largest Italian transatlantic liners, being the sister ship of the "Rex". Both vessels are equipped with gyro stabilisers, which overcomes any tendency of the boats to roll in rough weather.

We are informed that a special inclusive price of 180 Lira will be made in respect of first-class accommodation on board the "Conte di Savoia" for the passage from Genoa to Naples.

All tourist and travel agencies will be informed accordingly, and the reduction will be granted to the delegates upon production of the identity card at the tourist office.

CUSTOMS FACILITIES

Arrangements are being made whereby upon production of the delegate's identity card, or congress card, special facilities will be granted for the passage of the delegates' luggage through the Italian customs.

RESTAURANTS IN ROME AND MILAN

The following is a list of the restaurants and cafes recommended in Rome and Milan, although delegates will find that the restaurants attached to the principal hotels serve excellent meals.

Restaurants in Milan—

Savini—Galleria V Emanuele
Biffi—Galleria V Emanuele
Hagy—Corso V Emanuele
Casse—Corso V Emanuele
Fiaschetteria Toscana—
Via Berchet

Restaurants in Rome—

Faraglia
Umberto I
Fagiano
San Carlo
Taverna del Quirinale
Plaza

Cafés in Rome—

Aragno, Via del Corso 179

Biffi, Piazza Colonna

Greco, Via Cornuti

Piazza di Spagna 23

,, ,, 46-47

Via Porta Pinciana 45

There are a large number of smaller restaurants in Rome which serve excellent meals

CURRENCY

The Italian currency is based upon the metric system, 100 centesimi equals one Lira, and one Lira, at the time of writing, equals approximately 4d, the rate of exchange being 58 Lira to the £ sterling

RULES GOVERNING THE HOLDING OF CONGRESS

The associations in each country shall appoint delegates to attend the Congresses. No restriction shall be placed on the number of delegates any association may send, but the voting power shall be as follows —

One vote for each million spindles or part thereof

One vote for each 40,000 looms or part thereof, but not more than twenty votes to be given by any one country

Voting shall be by the showing of hands, but shall be by ballot if desired by 25 per cent of those present empowered to vote

Each association shall, before the end of March, appoint its delegates for the following Congress, and shall at once intimate to the secretary the names, postal addresses and cable addresses of such delegates

Fourteen days' notice shall, if possible, be given to the secretary at headquarters of any change in the appointment of delegates

The expenses of delegates shall be paid by the association they represent, or by the delegates themselves

If a delegate be unable to be present he may be replaced by another representative of his association. This representative, however, must present satisfactory credentials to the Committee

Any association wishing to bring a subject before the annual Congress, or propose the alteration of a rule, shall forward its resolution to the secretary at headquarters before the end of March

Delegates may speak in Italian, English, French or German, but it is desirable that they use the English language, in order to obviate, as far as possible, the necessity of translation



AUSTRIA.

COTTON SPINNING.

The employment position of the spinning mills has improved a little during the last few months. According to statistics to hand for the month of October, the mills were occupied to about $83\frac{1}{2}$ per cent. of their full capacity (single shift), as compared with 79 per cent. in August this year. During October about 4.89 million lbs. English were produced, as compared with 3.9 million lbs. in August. This extra production was the result of rather increased export demand, especially for twist, but it is anticipated that a reaction will shortly set in, because in view of the difficulties which have arisen in trading with important foreign markets (especially Rumania), it is probable that the export of yarns will suffer a reduction. The total number of workers employed has increased by about 8 per cent. during recent months. In spite of the improved employment position, it cannot be said that a favourable development has taken place in remunerative working conditions, because the prices obtained for export do not enable production costs to be fully covered. The sale of yarns for home trade is as before, unsatisfactory, due in particular to the poor state of business in the hosiery industry.

The foreign trade statistics show, for the months of September and October, the following figures as regards the export of cotton yarns:—

EXPORT

				September/October	
				1934	1933
				q	q
Grey cotton yarns	..	..	..	13,662	13,443
Bleached	"	..	..	489	384
Dyed	"	..	..	96	297

The above figures do not show the export revival mentioned earlier, because this has only asserted itself in the months of November and December.

As regards the import of cotton yarns during the months of September and October, the figures are as follows:—

IMPORT

				September/October	
				1934	1933
				q	q
Grey cotton yarns	..	..	..	2,954	1,615
Bleached	"	..	..	361	373
Dyed	"	..	..	387	394

There has been no change in wage conditions in the spinning mills during recent months.

COTTON WEAVING.

The activity of the weaving mills may be described as normal, involving about 80 per cent. of the full employment capacity working single shift. On the other hand, prices for all kinds of fabrics have been extraordinarily unfavourable, due to the increased competition among the weaving mills themselves, and also to the import of fabrics, which, in spite of import quotas, is again increasing. The rationalization of production carried out in many concerns is certainly causing an increase in supply, which is only taken up by the market with the aid of continuous price reductions. According to the foreign trade statistics, there were imported during the months of September and October:—

	1934	1933
	q	q
Grey fabrics	3,513	2,642
Bleached fabrics	311	244
Dyed fabrics	246	240
Printed fabrics	1,219	1,319
Coloured woven fabrics	4,273	3,895

It is probable that during the months of November and December, the import will have still further increased as compared with last year. Since the falling home prices hardly offer an incentive to the respective supplying countries for pushing imports to Austria, then the fact of this increase in imports must be attributed to the pressure of overproduction prevailing in these countries.

The wage level in the weaving mills has remained unchanged during recent months.

Concerning the prospective development of business in the near future, no reliable forecast can be made, but there are no signs of a further improvement in the selling or price position; on the contrary, the probability of a drop in activity must be expected.

The original German text runs as follows:—

BAUMWOLL-SPINNEREI.

Die Beschäftigungslage der Spinnereibetriebe hat sich während der letzten Monate etwas gebessert. Nach der für den Monat Oktober vorliegenden Statistik waren die Betriebe mit cca. 83½ % ihrer vollen Kapazität (in einfacher Schicht) beschäftigt, gegenüber 79 % im Monat August ds. Js. Erzeugt wurden im Monat Oktober rund 4.89 Millionen engl. Pfund gegenüber 3.9 Mill. Pfund im August. Diese Mehrerzeugung war in einer etwas gesteigerten Exportnachfrage, namentlich nach Zwirnen, bedingt, doch ist zu erwarten, dass schon in der nächsten Zeit ein Rückschlag eintritt, weil die Garnausfuhr im Hinblick auf die im Verkehr mit wichtigen Absatzländern (vor allem Rumänien) eingetretenen Schwierigkeiten, voraussichtlich eine Herabminderung erfahren wird. — Die Gesamtzahl der beschäftigten Arbeiter hat sich während der letzten Monate um cca. 8 % erhöht. — Ungeachtet der gebesserten

Beschäftigungslage kann von einer günstigen Entwicklung der Rentabilitätsverhältnisse nicht gesprochen werden, weil die im Export erzielbaren Preise eine volle Deckung der Selbstkosten nicht ermöglichen. — Der Garnabsatz im Inlande ist nach wie vor unbefriedigend, was insbesondere mit dem schlechten Geschäftsgang der Trikotagen-Industrie zusammenhängt.

Die Aussenhandelsstatistik weist für die Monate September und Oktober die folgenden Ziffern hinsichtlich der Ausfuhr von Baumwollgarnen aus:—

AUSFUHR

				September, Oktober	
				1934	1933
				q	q
rohe Baumwollgarne	..	..	..	13,662	13,443
gebleichte	"	..	..	489	384
gefärbte	"	..	..	96	297

Die obigen Ziffern lassen die früher erwähnte Ausfuhrbelebung noch nicht erkennen, weil sich dieselbe erst in den Monaten November und Dezember geltend gemacht hat.

Was die Einfuhr von Baumwollgarnen anlangt, so hat sich dieselbe in den Monaten September und Oktober wie folgt gestaltet:—

EINFUHR

				September, Oktober	
				1934	1933
				q	q
rohe Baumwollgarne	..	..	..	2,954	1,615
gebleichte	"	..	..	361	373
gefärbte	"	..	..	387	394

Die Lohnverhältnisse in den Spinnereibetrieben haben während der letzten Monate keine Aenderung erfahren.

BAUMWOLL-WEBEREI.

Die Beschäftigung der Webereibetriebe, ist als normal zu bezeichnen und dürfte eine cca. 80%ige Ausnützung der Kapazität in einfacher Schicht involvieren. Andererseits hat sich die Preisbildung in allen Gewebesorten ausserordentlich ungünstig gestaltet, was auf den verschärften Konkurrenzkampf der Webereien unter einander, aber auch auf die, trotz Kontingentierung des Importes, wieder ansteigende Gewebeeinfuhr zurückzuführen ist. Die in vielen Betrieben durchgeführte Rationalisierung der Produktion führt zu einer Verschärfung des Angebotes, das vom Markt nur mit Hilfe von fortgesetzten Preismässigungen aufgenommen wird. Nach der Aussenhandelsstatistik wurden in den Monaten September und Oktober eingeführt:—

				1934	1933
				q	q
rohe Gewebe	..	..	..	3,513	2,642
gebleichte Gewebe				311	244
gefärbte	"			246	240
bedruckte	"			1,219	1,319
bingewebe	"			4,273	3,895

In den Monaten November und Dezember dürfte sich der Import gegenüber dem Vorjahr noch weiter gesteigert haben. Da die

sinkenden Inlandspreise den in Frage kommenden Lieferungs-ländern kaum einen Anreiz zur Forcierung der Einfuhr nach Oesterreich bieten, so muss die Tatsache dieser Importerhöhung auf den Druck der in diesen Staaten eingetretenen Ueberproduktion zurückgeführt werden.

Das Lohnniveau ist in den Webereibetrieben während der letzten Monate unverändert geblieben.

Was die voraussichtliche Geschäftsentwicklung der nächsten Zukunft anbelangt, so lässt sich zwar eine verlässliche Prognose nicht stellen, doch liegen keine Anhaltspunkte für eine weitere Besserung der Absatz- oder Preislage vor, sondern es muss im Gegenteil mit der Wahrscheinlichkeit eines Beschäftigungsrückgangs gerechnet werden.

BELGIUM.

The statistics of exports of cotton piece goods furnish a sufficiently accurate reflection upon the uncertainty of the general state of affairs in the Belgian cotton industry.

According to the *Bulletin of Foreign Trade*, published by the Ministry of Finance, our exports of cotton piece goods are placed at 15,900,300 kg., valued at 489,704,000 Belgian francs, for the first nine months of 1934, as against 16,312,000 kg., valued at 536,769,000 francs, for the corresponding period of 1933.

These figures reveal a fall of $2\frac{1}{2}$ per cent. in the quantity and 9 per cent. in the value. This disparity in the percentages shows only too well that the feeble flow of the current of our export trade is only able to maintain itself by making continual sacrifices in respect of prices which are already far too low. It is interesting to note that, during the course of the years 1928 and 1929, the exports of Belgian cotton piece goods rose in nine months to some 33 million kilos.

The Belgian spinning industry is feeling very keenly the effects of the reduced activity of the weaving section.

Renewed efforts have been made with a view to increasing yarn exports. Certain results have been brought about by making heavy sacrifices in prices. In spite of everything, however, the quantities of yarn exported are relatively of little importance, compared with the productive capacity of the spinning industry.

During the month of January, 1935, wages will be reduced by 3 per cent. in cotton spinning and weaving mills.

(*Société Coopérative Association Cotonnière de Belgique.*)

The original report in French runs as follows:—

La statistique des exportations de tissus de coton reflète de façon suffisamment précise les variations de l'état général de l'industrie cotonnière belge.

D'après le *Bulletin du Commerce* avec les pays étrangers, publié par le Ministère des Finances, nos exportations de tissus de coton se sont élevées à 15,900,300 kg., valant 489,704,000 frs. pour les neuf premiers mois de 1934 contre 16,312,000 kg., valant

536,769,000 frs. pour la période correspondante de 1933. Ces chiffres accusent un recul de 2.5 pour cent dans les quantités et de 9 pour cent dans les valeurs: cette divergence dans les pourcentages met une fois de plus en relief que le faible courant d'affaires à l'exportation ne se maintient que moyennant des sacrifices continuels, sur des prix déjà avilis. Il est intéressant de noter qu'au cours des années 1928 et 1929, les exportations belges de tissus de coton s'élevaient en 9 mois à quelque 33 millions de kilos.

Les filatures belges se ressentent vivement du ralentissement de l'activité de nos tissages.

Un gros effort a été fait en vue d'augmenter les exportations de filés. Certains résultats ont été obtenus moyennant de lourds sacrifices sur les prix. Malgré tout, les quantités de filés exportées sont relativement peu importantes par rapport à la capacité de production des filatures.

Dans le courant du mois de janvier, les salaires seront diminués de 3 pour cent dans les filatures et les tissages de coton.

CZECHO-SLOVAKIA.

The situation in the Czecho-Slovakian cotton spinning industry during 1934 was, on the whole, somewhat better than in the previous year.

The Czecho-Slovakian cotton spinners were able, in the first half of the year, to keep the degree of activity at approximately 65 per cent. of normal full time working; but during the second half of the year, activity dropped again to approximately 52 per cent., so that the average for the year was approximately 55 per cent. as against 51 per cent. in the previous year. Firms owning 13 spinning mills with approximately 500,000 spindles, i.e., about 14 per cent. of the Czecho-Slovakian fine cotton spinning industry, stopped their mills entirely. In consequence thereof, the active spinning mills worked approximately 65 per cent. of normal capacity, as against 68 per cent. in the previous year.

The improvement is mainly due to the increased demand from the home market, which is chiefly brought about by the currency restrictions and tariff measures instituted by the Government at the beginning of the year.

This caused consumers of yarn to reduce their imports, and gave rise at the beginning of the year to a considerable upward trend in sales and deliveries. On the other hand, during the latter months sales were far behind those of the previous years, and, especially during the last few months, the demand for yarn was at a minimum, caused, no doubt, by the unusually mild weather. The export trade was approximately similar to that of the previous year.

The position of Egyptian spinners appears to be somewhat better, similarly also that of the American and Indian spinners.

Yarn prices have been protected by the price conventions, and together with the quota agreements, have brought about improved spinning margins, taken as a whole.

The export of cotton yarns and goods, which has decreased during the last few years, has shown a slight improvement.

The original statement appears in German, together with export figures:—

Die Lage der csl. Baumwollspinnereien war 1934 im Allgemeinen etwas günstiger als im vorhergehenden Jahre.

Die csl. Baumwollspinnereien konnten im ersten Halbjahr den Beschäftigungsgrad bis auf cca. 65 % der Normalleistung steigern; im zweiten Halbjahr sank dieser allerdings wieder auf cca. 52 %, sodass man im Jahresdurchschnitt die Betriebsausnützung der Spinnereien mit etwa 55 % (gegenüber cca. 51 % im Vorjahre) annehmen kann. 13 Spinnerfirmen mit etwa 500,000 Spindeln, d.s. etwa 14 % der csl. Feinspinnindustrie, hatten ihre Betriebe gänzlich stillgelegt, sodass die durchschnittl. Ausnützung der Kapazität der arbeitenden Spinnereien auf etwa 65 % der normalen Kapazität (gegenüber cca. 58 % im Vorjahre) geschätzt werden kann.

Die Besserung ist hauptsächlich auf die grössere Aufnahmefähigkeit des Inlandsmarktes zurückzuführen, die wohl auch nur durch die Währungs- und Steuermassnahmen der Regierung am Anfang des Jahres verursacht wurde, welche die Garnverbraucher zu einer reichlicheren Eindeckung veranlassten. Daher waren zu Anfang des Jahres die Verkäufe und Ablieferungen bedeutend höher als im Vorjahre, während sie in den letzten Monaten stark hinter dem Vorjahre zurückblieben. Insbesondere in den letzten Monaten des Jahres war die Nachfrage nach Garnen minimal, was auch auf die ungewöhnlich milde Witterung zurückzuführen ist, die das Wintergeschäft verdarb. Das Exportgeschäft bewegte sich ungefähr im Rahmen des Vorjahres.

Die Geschäftslage der Makospinnerei gestaltete sich etwas günstiger, als die der Amerika- und Suratspinnereien.

Die Garnpreise, durch ein Preisübereinkommen gebunden und durch eine Kontingentierungsvereinbarung gestützt, ermöglichten im Durchschnitt eine ausreichende Spinnmarge.

Der Export von Baumwollgarnen und -Waren, der in den letzten Jahren ständig zurückging, weist in der letzten Zeit einige Anzeichen einer Besserung auf, wie aus nachfolgenden Ziffern zu ersehen ist.

YARN EXPORTS

					1934	1933	1932
					q	q	q
1st quarter	..	..	..	..	30,069	46,327	40,977
2nd quarter	..	..	..	..	24,391	34,407	42,136
3rd quarter	..	..	..	..	29,731	20,689	28,304
4th quarter	..	..	..	..	—	25,368	47,391

COTTON GOODS EXPORTS

					q	q	q
1st quarter	..	..	..	..	18,987	27,414	38,142
2nd quarter	..	..	..	..	19,582	20,228	29,500
3rd quarter	..	..	..	..	25,605	26,800	31,436
4th quarter	..	..	..	..	—	23,751	36,260

(Hospodarsky Svaz. Csl. Pradelen Bavlňy, Prague.)

ENGLAND.**SPINNING SECTION.**

The position of the trade shows little change compared with the previous quarter. Active mills are working up to approximately 75 per cent. capacity, although a large number of firms are indefinitely stopped, with little prospect, in many cases, of restarting in the early future. In September, 1934, two schemes—one for regulating production, and the other for dealing with surplus spindleage—the outlines of which were published in the last issue of the *BULLETIN*, were circulated to the trade for its opinion, by the Federation of Master Cotton Spinners' Associations.

The result of the enquiry has been declared as follows:—

PROPOSED COTTON SPINNERS' ASSOCIATION.

In favour:	Against:	No replies:
50.76%	31.44%	17.80%

In view of the fact that the required percentage (90 per cent.) of the total spindleage in the trade has not been obtained, the scheme has been abandoned.

SCHEME FOR DEALING WITH SURPLUS SPINDLEAGE.

In favour:	Against:	No replies:
66.34%	18.40%	15.26%

In connection with this scheme, the Drafting Committee, presided over by Lord Colwyn, has decided to proceed to the extent of appointing an independent accountant, who has issued a circular to all spinners inviting offers of spindles for sale or for "sealing."

Only in the event of the Drafting Committee being satisfied that the number of spindles offered is sufficient to warrant it, will the scheme be proceeded with.

No changes in rates of wages have taken place during the quarter.

MANUFACTURING SECTION.

The state of trade in the weaving section has shown a slight improvement, although it is still far from satisfactory, the mills working only 70 per cent. of capacity. Unemployment in the industry is less severe than six months ago, but it is problematical whether the improvement is of a permanent or merely temporary nature.

Many of the difficulties of the weaving section are attributable to the poor prices offered for cloth, and there has been but little improvement in this direction since the last report. Even in the higher grades of fancy cotton and artificial silk cloths, the prevailing price level is most unsatisfactory.

FRANCE.

The state of trade in the French cotton industry became gradually worse during the last quarter of 1934. It appeared, however, at the conclusion of the period under review, that the depression had touched rock bottom, without giving any indication

as to whether it marked simply the uttermost depths of the crisis or the indication of a recovery.

At the end of November the degree of activity in the mills, allowing for plant completely stopped in the total figure of short time worked by the remainder of the industry only working part time, can be estimated at about 60 per cent. for the weaving section, 55 per cent. for the spinning section as a whole, and about 42 per cent. for the fine spinning section.

No changes have occurred in wages in the cotton districts during the period under review, except in the Roanne (Loire) weaving centre, where a reduction in the list rates of pay gave rise in December to a strike, which is still in progress.

The following is the original text in French:—

La situation de l'industrie cotonnière française a continué à s'aggraver au cours du 4^{ème} trimestre 1934. Il semblait toutefois, à la fin de la période considérée, que la dépression avait atteint un palier sans qu'on puisse d'ailleurs prévoir encore si ce palier marque simplement le fond de la crise ou est l'indice d'une reprise.

Fin novembre le degré d'activité des usines, compte tenu tant de l'outillage complètement arrêté que du chômage pratiqué par l'outillage resté en activité partielle, pouvait être évalué encore à environ 60 pour cent le tissage, 55 pour cent pour la filature courante et à 42 pour cent environ pour la filature de numéros fins.

Aucune modification de salaires n'est intervenue dans les régions cotonnières pendant le trimestre en revue, sauf en ce qui concerne le centre de tissage de Roanne (Loire) où une réduction des tarifs a provoqué dans cette région courant décembre une grève qui dure encore.

IMPORTATIONS ET EXPORTATIONS D'ARTICLES COTONNIERS

		1934	
		2ème trimestre 2nd quarter (Quintaux Métriques)	3ème trimestre 3rd quarter (Metric quintals)
A—IMPORTATIONS :			
IMPORTS :			
1° Fils de coton.. .. .	.. .. .	1,700	1,201
<i>Cotton yarns</i>			
2° Tissus de coton et autres articles manufacturés	..	2,950	2,282
<i>Cotton cloth and other manufactured articles</i>			
B—EXPORTATIONS :			
EXPORTS :			
1° Fils de coton—Exportations totales	.. .. .	15,332	19,861
<i>Cotton yarns—total exports</i>			
Destinations :			
Algérie, Colonies françaises et pays de protectorat	..	3,453	3,889
<i>Algeria, French colonies and protectorates</i>			
Marchés étrangers	.. .. .	11,879	15,972
<i>Foreign markets</i>			

	1934	
	2ème	3ème
	trimestre	trimestre
	2nd	3rd
	quartier	quartier
	(Quintaux Métriques)	
	(Metric quintals)	
2° Tissus de coton et autres articles manufacturés—		
Exportations totales	83,518	97,199
<i>Cotton cloth and other manufactured articles—total exports</i>		
Destinations :		
Algérie, Colonies françaises et pays de protectorat ..	70,934	86,283
<i>Algeria, French colonies and protectorates</i>		
Marchés étrangers	12,584	10,916
<i>Foreign markets</i>		
(Syndicat Général de l'Industrie Cotonnière Française.)		

GERMANY.

SPINNING SECTION.

The position of the German cotton spinning section remained practically unchanged during the last quarter of 1934. Reference is therefore invited to our last report, published on page 11 of the INTERNATIONAL COTTON BULLETIN, No. 49, issued last October.

The original report in German follows :—

Die geschäftliche Lage der deutschen Baumwollspinnerei blieb während des letzten Quartal 1934 im wesentlichen die gleiche wie im vorausgegangenen Quartal. Es kann deshalb auf den zuletzt erstatteten Bericht Bezug genommen werden.

(Gesamtverband der Deutschen Baumwoll Spinnerverbände.)

WEAVING SECTION.

As was pointed out in our report upon the state of trade in the third quarter of 1934, the prosperous condition which existed in the first half of last year has become unfavourable, owing to the currency position. The degree of occupation attained during the third quarter of 1934 was continued as a whole throughout the last quarter of the year.

The demand is satisfactory; certain difficulties, due to the delivery of earlier orders, have arisen, but are being replaced by new contracts from other sources.

The original report in German follows :—

Es wurde bereits in dem Bericht über die Lage im 3. Quartal 1934 darauf hingewiesen, dass der im 1. Halbjahr 1934 bestehende gute Beschäftigungsgrad im Hinblick auf die Regierungsanordnungen, welche aus Gründen der ungünstigen deutschen Devisenlage erlassen wurden, etwas zurückgegangen ist. Der im 3. Quartal 1934 erreichte Beschäftigungsgrad konnte im allgemeinen auch im 4. Quartal 1934 aufrecht erhalten werden.

Die Versorgung mit Aufträgen ist befriedigend. Gewisse Schwierigkeiten, die hinsichtlich der Auslieferung der früher abgeschlossenen Aufträge entstanden sind, werden durch Neuabschlüsse ausgeglichen, bei denen andere Provenienzen als die ursprünglich eingedeckten verwendet werden.

(Verein Sueddeutscher Baumwollindustrieller e. v.).

HOLLAND.

SPINNING SECTION.

The demand for cotton yarns is very unsatisfactory and prices remain poor. The offtake from the weaving mills, and also for hosiery, is not sufficient to absorb the production of the mills, while cheap imports of single yarns from Lancashire and twofolds from Belgium spoil the market.

The average degree of production in the spinning mills can be estimated from 75 to 80 per cent.

WEAVING SECTION.

The demand for home trade has been smaller than last year, and the autumn season has been very disappointing. Also for export the demand is insufficient, and for those markets which are still without import restrictions the higher cost of production in Holland is often an obstacle in the way of business. For some export markets where quotas are imposed a few more orders have been booked, but on the whole, conditions are very unsatisfactory, both for the mills catering for the home trade as also for those exporting.

The actual degree of occupation in the weaving industry can be estimated at 65 to 70 per cent.

HUNGARY.

The difficulty of textile mills in obtaining foreign exchange for the importation of raw material has led to some very remarkable developments. Since foreign raw materials are made available largely on a compensation basis, cotton mills are anxious to co-operate with such Hungarian export partners as are in a position to deliver products required in the countries where they intend to purchase raw materials. In one instance, it is reported that a Hungarian malt factory is now erecting a cotton-spinning mill because it has good chances to exchange malt in England for raw cotton which will be spun in Hungary, and the sale of which in manufactured form in the country, under the circumstances, is a profitable business.

(United States Department of Agriculture).

ITALY.

The position of the Italian cotton industry improved during the last quarter of 1934 as compared with the preceding quarter.

Production in spinning and weaving has been maintained, and has shown a slight tendency to increase; at the same time stocks have diminished.

The level of prices has been more stable, employment unchanged, while wages have also remained the same.

This general improvement is the first sign of the soundness of the measures which the Istituto Cotoniero Italiano have put into work during recent months, concerning the production limit of national mills.

During the coming months the results of this very drastic action will be seen clearer, meanwhile it must be pointed out that these measures have already succeeded in counterbalancing, partly, the disorganization caused by the continuous reduction of sales abroad.

Here are the export figures up to the end of October:—

					1934	1933
					(in quintals)	
Yarns	..	..	..	..	228,704	235,155
Cloth	..	..	..	..	213,349	268,897
Total	..	..	..	..	<u>442,053</u>	<u>504,052</u>

(Associazione Italiana Fascista degli Industriali Cotonieri.)

The original report in Italian runs as follows:—

L'industria cotoniera italiana durante il 4° trimestre di quest'anno ha migliorato la sua situazione rispetto al trimestre precedente.

Infatti il ritmo produttivo della filatura e della tessitura si presenta piuttosto regolare con una leggera tendenza progressiva, mentre si nota un persistente alleggerimento delle rimanenze di manufatti presso l'industria.

Il tono dei prezzi è stato meno fiacco e l'occupazione operaia stazionaria, mentre i salari sono rimasti invariati.

Questo miglioramento generale è un primo sintomo dell'efficacia dei provvedimenti che l'Istituto Cotoniero Italiano ha adottato da qualche mese nei confronti della disciplina produttiva delle fabbriche nazionali.

Vedremo meglio nei prossimi mesi i risultati di questa particolare energica azione organizzativa, ma intanto va rilevato che essa è già riuscita a ridurre in parte lo squilibrio causato dalla continua contrazione delle vendite all'estero.

Ecco le risultanze dell'esportazione alla fine del mese di ottobre:

					1934	1933
					(in quintali)	
Filati	..	..	..	..	228,704	235,155
Tessuti	..	..	..	..	213,349	268,897
Totale	..	..	..	..	<u>442,053</u>	<u>504,052</u>

SWEDEN.

In comparison with the previous quarter the situation in the cotton industry in Sweden, during the last quarter of 1934, shows small alterations.

As observed in our previous report foreign competition has become more intensified, causing a further decline in prices, with corresponding unsatisfactory profits. In spite of these conditions, most of the mills are running full time.

No changes in wages have taken place during the period under review.

SWITZERLAND.

The demand for yarns, during the fourth quarter of 1934, has remained practically unaltered. The methods adopted to curtail production, already pointed out in our previous report, still take the form of reduction of hours and the stoppage of spindles. The home demand leaves much to be desired, in view of the poor business conditions in the weaving section.

The crisis in the weaving section has become decidedly worse; the prolonged warm winter weather has been especially unfavourable to the coloured weaving section.

Wages have remained unaltered, bar minor exceptions, in spite of the fact that the prices obtainable demand a reduction in the cost of production.

The cotton industry is endeavouring, as heretofore, to avoid a reduction of wages wherever possible before the commencement of winter, which brings increased cost of living to the operative.

The following is the original text in German:—

Der Gespinstabsatz hat sich im IV. Quartal 1934 ziemlich unverändert gehalten. Die schon früher erwähnten Produktions-einschränkungen in Form von Arbeitszeitreduktionen und Spindel-stillständen bestanden indessen fort. Der Inlandabsatz lässt zufolge schlechten Geschäftsganges in der Weberei viel zu wünschen übrig.

In der Weberei hat sich die Absatzkrise weiter verschärft; das langanhaltende warme Winterwetter wirkte sich besonders für die Buntweberei ungünstig aus.

Die Löhne sind, von verschwindenden Ausnahmen abgesehen, stabil geblieben, trotzdem die gedrückten Fabrikatpreise gebieterisch eine Senkung der Produktionskosten verlangen. Die Baumwollindustrie bemühte sich indessen von jeher, soweit irgend möglich, vor Winterbeginn, der auch dem Arbeiter vermehrte Eindeckungskosten bringt, Lohnsenkungen zu vermeiden.

(Schweizerischer Spinner-Zwirner-und Weber-Verein.)

U.S.S.R.

The cotton textile industry in the U.S.S.R. is experiencing a considerable raw material shortage at present, and express railway transportation of cotton of the new crop was inaugurated in Middle

Asia in October. Such transports were organized under the name of "Cotton Arrows," and consisted of high-speed freight trains. The extent of the raw material shortage is best illustrated by the statement of the Commissar of the Light Industry, made around October 1, according to which cotton supplies in factories at that time amounted to only a few days' requirements. The shortage is apparently due, at least in part, to the slowness in harvesting.

October production of the cotton textile industry no doubt reflected this raw material shortage, but production figures are not yet available. The outturn of finished cotton fabrics amounted to 195,949,000 metres (214,290,000 yards) in September, which is 97.5 per cent. of the plan, and the outturn of yarn amounted to 29,741 tons (65,567,000 lbs.), or 104.6 per cent. of the plan.

(United States Department of Agriculture).

U.S.A.

Through the courtesy of the Cotton Textile Institute, New York, we are able to publish figures of cotton cloth production during 1934 for each week:—

SUMMARY OF ALL COTTON CLOTH PRODUCTION REPORTED TO THE COTTON-TEXTILE INSTITUTE ON A YARDAGE BASIS

1934	Production	1934	Production
Jan. 6 ..	104,830,000	July 7 ..	56,829,000
" 13 ..	119,903,000	" 14 ..	102,663,000
" 20 ..	123,861,000	" 21 ..	103,595,000
" 27 ..	117,428,000	" 28 ..	104,010,000
Feb. 3 ..	125,295,000	Aug. 4 ..	98,861,000
" 10 ..	126,483,000	" 11 ..	96,097,000
" 17 ..	127,894,000	" 18 ..	99,555,000
" 24 ..	121,996,000	" 25 ..	95,291,000
Mar. 3 ..	126,377,000	Sept. 1 ..	114,626,000
" 10 ..	130,036,000	" 8 ..	61,027,000
" 17 ..	132,231,000	" 15 ..	55,859,000
" 24 ..	131,004,000	" 22 ..	61,184,000
" 31 ..	126,787,000	" 29 ..	94,574,000
April 7 ..	129,005,000	Oct. 6 ..	117,497,000
" 14 ..	131,202,000	" 13 ..	120,543,000
" 21 ..	127,274,000	" 20 ..	123,931,000
" 28 ..	130,997,000	" 27 ..	124,909,000
May 5 ..	128,871,000	Nov. 3 ..	126,663,000
" 12 ..	125,573,000	" 10 ..	125,348,000
" 19 ..	124,542,000	" 17 ..	119,245,000
" 26 ..	123,930,000	" 24 ..	125,093,000
June 2 ..	116,659,000	Dec. 1 ..	111,426,000
" 9 ..	98,062,000	" 8 ..	120,727,000
" 16 ..	102,551,000	" 15 ..	126,428,000
" 23 ..	101,321,000	" 22 ..	127,808,000
" 30 ..	98,788,000	" 29 ..	83,694,000
		Total ..	5,850,383,000



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Edited by W. H. SLATER, B.Sc. (Textiles), A.T.I.

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**ARGENTINA.**

EXPORTS OF COTTON FROM ARGENTINA FOR THE NINE MONTHS, MARCH TO OCTOBER, 1934 AND 1933 (FROM BUENOS AIRES).

Name of Exporter	March to October, 1934		Same period, 1933	
	Bales		Bales	
Bunge & Born	51,133		50,581	
M. Comero y Cia	18,835		5,004	
Louis Dreyfus y Co	14,458		23,587	
Comm. Belgo Argen	11,755		4,569	
La Fabril S. A.	11,000		1,747	
J. C. Kaehler	8,772		1,217	
C. Abreu Sosa	4,312		200	
N. Mihanovich	3,287		3,949	
N. J. Corbellini	2,950		1,050	
Rius y Jorba	2,560		2,000	
Cia. Gral. F. Financ	1,577		803	
Others	334		387	
Total bales	130,973		95,094	

BELGIAN CONGO.

Cotton production in 1934 is estimated at about 20,000 metric tons, compared with 15,000 tons produced in 1933. Cotton-growing is compulsory in every district where concessions were granted to the owners of ginning plants for the purpose of supplying work for the natives, who are thus enabled to pay their taxes and purchase imported products.

Practically the entire crop is exported; most of it is sold to Belgium, but fair quantities are shipped to Hamburg and British ports. The Government is fixing fair prices for the cotton purchased from the growers. The cost of transportation from Congo to European ports is said to be almost twice as high as those for cotton from East Africa.

(*Textile Raw Materials.*)

BRAZIL.

According to reports dated Santos, Brazil, December 11, 1934, the official estimate made for the current crop, that of 1934, is as under:—

Northern zone*	.. .. .	163,200,000
Southern zone†	.. .. .	108,500,000
Kgs.	.. .. .	271,700,000

or, say, 1,233,000 bales of 478 lbs. each.

* Planted from January to June, 1934, and harvested in June 1934, to January, 1935.

† Planted from September to November 1934, and harvested from March to June, 1935.

BRITISH WEST INDIES.

The report by H.M. Trade Commissioner upon the "Economic Conditions in the British West Indies" (published by H.M. Stationery Office, 4s.) includes a retrospect of cotton-growing activities in the islands, which we reproduce herewith:—

The past year has been a bad one for cotton in Barbados.

Statistics show a very low yield per acre during the period 1931-33: this is not entirely due to bad weather. The law necessitates cotton growers recording the acreage planted, but owing to the very low prices many growers, especially peasants, did not trouble to pick their cotton, and this failure very considerably lowered the average yield per acre, calculated on the basis of the cotton actually harvested and the acreage originally reported as planted.

The recent cotton conferences in Barbados and Trinidad and the general feeling that there is some future before the Sea Island cotton industry, however, will undoubtedly result in greatly increased acreages being planted in the next few years.

The area planted under Sea Island cotton for the 1933-34 crop in St. Vincent was approximately 1,215 acres, with an estimated yield of 95,000 lbs. lint, and that under Marie Galante (grown in the Grenadines) 719 acres, with an estimated yield of 65,000 lbs.

The 1933 crop in Antigua was reaped from approximately 200 acres. Heavy rains, severe attacks of the cotton caterpillar and the presence of pink boll-worm affected the yield. The total production amounted to 26 bales (7,800 lbs.) clean lint and two bales (600 lbs.) stain, which was all exported during 1933.

During the year 10 bales of the 1933 crop and 92 bales from stock in hand were sold at 11d., 11½d. and 1s. per lb. for clean lint and at 4½d. to 6½d. per lb. for stains.

The acreage planted for the 1933-34 crop was between 60 to 70 acres, so that only a small crop can be expected in 1934. At the end of 1933, however, the prospects were that the yield per acre would be good.

The Montserrat cotton crop in 1933 was reaped from 2,182 acres and amounted to 477,097 lbs. of lint, an average yield of 219 lbs. per acre. There were no insect pests or plant diseases and the year was one of the very best cotton seasons since the inception of the industry. The crop is produced chiefly by the peasants, who cultivate the estates' lands on the half-share system and their own holdings. The average price obtained was 12d. per lb. lint.

Sea Island cotton is grown as a catch crop with cane in St. Kitts-Nevis.

The area under this crop was again reduced, as there had been no improvement in the market for Sea Island cotton. The area planted and the lint produced is given below:—

						Acres	Lb. Lint
St. Kitts	..	..	..	..	..	139	20,430
Nevis	..	..	..	..	..	100	10,042
Anguilla	..	..	..	..	..	134	18,750
Total ..						364	49,222

The average price during the year was about 1s. per lb. for clean lint.

(Department of Overseas Trade.)

BULGARIA.

The cotton crop now being picked is estimated to be between 5,000 and 6,000 metric tons, an increase compared with last year's crop, which amounted to 4,000 tons. The Government has ruled that cotton imports will be permitted only after the domestic crop has been absorbed. The Government authorized the State-controlled Agricultural Bank to buy up the domestic crop at fixed prices to prevent speculation. The guaranteed prices at present exchange rates amount to \$0.36 to \$0.41 per kilo (of 2.2 lbs. each), according to quality. All yarns spun from domestic cotton will also be assured a fixed price, which, however, has not yet been set. It is the opinion of local authorities that the Government will continue its policy of protecting the local producers.

(Textile Raw Materials.)

FRENCH WEST AFRICA.

It is estimated that 3,700 bales of 478 lbs. (18,000 centals) were sold in Dahomey during the 1933-34 campaign. This figure is nearly double that of the campaign 1932-33, when 2,100 bales (10,300 centals) were sold for export out of a total production of 3,000 bales (14,300 centals). This increase follows a considerable increase in the area cultivated. The coming season has been carefully planned and 700 short tons (14,000 centals) of seed have been sown. Selected varieties of seed were distributed.

The cotton crop in the Sudan, which has contracted continuously since 1930-31, shows a slight increase. The area sown in the present year, 1934-35, is 148,810 acres, compared with 144,980 acres in 1933-34. The Sudan is by far the most important cotton-producing area in the group, its output in recent years having amounted to about four-fifths of the total for French West Africa. The area sown in Mauretania in 1934-35 is 1,730 acres.

(International Institute of Agriculture.)

GREECE.

The 1934 cotton crop is now estimated at about 50,000 bales of 500 lbs. If this estimate materializes, it will be 35 per cent. above the previous record crop of 1933. Notwithstanding the large 1933 crop, the high activity of the cotton mills resulted in imports being maintained during the current year at about 1933 levels. Cotton imports during January-August, 1934, aggregated 11,954,000 lbs., against 12,323,000 lbs. for the corresponding eight months of 1933. Imports of American cotton amounted to 5,222,000 lbs. in the 1934 period, against 6,304,000 lbs. in the eight months of 1933; Indian, 5,185,000 lbs. against 1,476,000 lbs.; Egyptian, 1,114,000 lbs. against 1,144,000 lbs. Imports from Turkey declined from 1,641,000 lbs. to 96,000 lbs., and, while no imports from Soviet Russia were recorded for 1934, 1,015,000 lbs. were imported in 1933. *(United States Department of Commerce.)*

The efforts made by the Government towards an expansion in cotton cultivation are beginning to show satisfactory results. As a

result of the propaganda of the Cotton Institute, cotton was grown in new areas this year. The use by growers of selected seeds and cleaning implements and an improvement in the irrigation system have contributed to an increase in the unit yield. The yield of ginned cotton this year, in spite of unfavourable weather, is estimated at about 220 lbs. per acre.

The considerable increase in the area and the good yield lead one to expect a very large production this year. It is estimated that it will exceed 200,000 centals (45,000 bales) of ginned cotton.

(International Institute of Agriculture.)

ITALY.

The International Institute of Agriculture, Rome, reports that in 1934 the area under cotton in Italy was double that in 1933, rising from about 3,500 to over 7,000 acres, of which 689 are irrigated, the average of 1929-32 was about 6,000 acres. Cotton is at the present grown in eight provinces, of which four (Bari, Brindisi, Foggia and Taranto) are in Apulia, one (Matera) in Lucania, and three (Agrigento, Caltanissetta and Ragusa) in Sicily. In comparison with 1933 the number of communes where cotton is grown increased from 46 to 48, the cotton-producing communes of Matera now numbering five instead of three. The area cultivated decreased in Bari, Foggia and Taranto, showed no change in Ragusa (324 acres, all irrigated) and increased in the other four, especially in Caltanissetta (376 per cent.) and Agrigento (314 per cent.): the crop profited by very favourable weather and 4,380 bales of 478 lbs. were gathered, an increase of 270 per cent. on the outturn of 1933 and of 71 per cent. on the 1929-32 average. The average yield was 286 lbs. of lint per acre against 156 lbs. in 1933, and 200 lbs. on the average; this is the highest yield on record in Italy. In Caltanissetta the yield was 357 lbs. for irrigated crops (284 acres) and 346 lbs. for unirrigated crops (3,855 acres). Production of cottonseed was 2,150 short tons, an increase of 272 per cent. on that of 1933 and of 88.4 per cent. on the average.

MANCHURIA.

In Manchuria the 1934 cotton crop is estimated to be about 20 per cent. above the 1933 crop. This year's acreage of cotton in Manchuria, of which about 80 to 90 per cent. consists of native varieties, is estimated to be 40 per cent. above the 1933 acreage. A cotton expansion programme is in progress in Manchuria, which if carried out will result in a cotton acreage at the end of a 15-year period of more than 3.5 times the 1934 acreage, of about 700,000 acres. It is estimated that such an area could produce over 400,000 bales, of which 50 per cent. or more would be upland cotton.

In Chosen or Corea the 1934 production of cotton is estimated at about 150,000 bales as compared with 147,000 bales in 1933, according to a report from Seoul. The present estimate for 1934

production is somewhat lower than earlier expectations; however, this year's crop is one of the largest on record. The increase in production over that of 1933 is largely a result of an expansion in the area planted. About one-fourth of the Chosen cotton production is of native varieties and three-fourths upland staple varieties. (*Foreign Crops and Markets.*)

MOZAMBIQUE.

Cotton production for export to Portugal is increasing in Mozambique (Portuguese East Africa), according to official reports from the Agricultural Service of the colony. Cotton has been exported only since 1907, although it has been grown in small quantities for more than a century. Exports in 1933 were 8,603 bales of 478 lbs. as against 8,386 in 1932, 6,838 in 1931, and 5,792 in 1924. The recent expansion is partly attributable to the cotton export bounty which has been paid since 1932. Most of the cotton is produced by the white population. In those provinces where the natives are the leading producers, production has increased during the recent low-price years, while remaining fairly constant in the other provinces.

Practically all of the production is exported to Portugal. A cotton export bounty is paid by the Portuguese Government at a rate equal to the difference between 8 escudos per kilogramme (about 16 cents per pound) and the average market price of Good Middling cotton at New York or Lisbon. The effect of the bounty has been to prevent a decline in Portuguese colonial production during the period of low cotton prices. Cotton produced in Mozambique averages from 1 in. to $1\frac{3}{16}$ ins. in staple length. This is longer than the average for upland cotton produced in the United States, less than 15 per cent. of which is $1\frac{1}{16}$ ins. or longer. In 1932 the United States exported 65,666 bales of cotton to Portugal, of which 2,330 bales were over $1\frac{1}{8}$ ins. staple. In 1933 the corresponding quantities were 68,690 and 6,620 bales respectively.

(*Foreign Crops and Markets.*)

NIGERIA.

Prospects are good. It was forecasted in November that about 180,000 centals (37,000 bales of 478 lbs.) of ginned cotton were likely to be exported from the Northern Provinces. Marketing had already begun in some districts.

(*International Institute of Agriculture.*)

PARAGUAY.

A great impulse to the increased production of cotton in Paraguay has been given by the action of the Banque Agricola Paraguay, through its propaganda for the increase of sowings of cotton-seed. 953,365 kilos of seed have been distributed by the bank during the past season among cotton cultivators in Paraguay.

Exports of cotton from Paraguay for the current year (1934-35) are expected to reach the figure of 34,202 bales, with a weight of

7,800,000 kilos. Exports in previous years have been as per the following table:—

							Kilos.
1923	..	..	..	..	..	..	879,537
1924	..	..	..	..	..	..	3,011,009
1925	..	..	..	..	..	..	2,786,278
1926	..	..	..	..	..	..	2,006,744
1927	..	..	..	..	..	..	1,781,144
1928	..	..	..	..	..	..	2,457,060
1929	..	..	..	..	..	..	2,844,618
1930	..	..	..	..	..	..	3,558,495
1931	..	..	..	..	..	..	2,745,911
1932	..	..	..	..	..	..	2,818,170
1933	..	..	..	..	..	..	2,270,802
1934	..	..	..	..	..	..	6,926,492

The consumption of cotton by the local spinning industry is estimated to be about 500,000 kilos. This mill is situated in the town of Pilar.

PERU.

The following is extracted from a report upon the economic conditions in Peru, published recently by H.M. Stationery Office for the Department of Overseas Trade:—

It is estimated that the 1933 cotton crop amounted to 58,500 tons as compared with 50,000 tons in 1932, or an increase of 17 per cent. The 1931 crop amounted to 50,500 tons and the 1930 crop to 54,500 tons—all approximate figures. It is estimated that the 1933 crop was valued at 67 million soles as compared with 37 million soles in 1932. Therefore the 1933 crop has realised approximately 80 per cent. more in currency than the previous year's. Averaging the sales made during the year in all the valleys, with the exception of Piura, the average price has been 53.50 soles per quintal of 46 kilos of Tanguis cotton, the class of cotton which represents 92 per cent. of the total Peruvian crop. The clear profit realised by the country from the crop can be estimated at a figure of 25 million soles, which has enabled planters both large and small to make satisfactory profits and partially to clear off outstanding debts.

Varieties grown are Tanguis (chiefly produced in the Departments of Lima and Ica), Pima (grown in Northern Peru in the Piura district) Smooth Perus, Mitafifi, Rough and Mod Rough. It may be mentioned that the crop more and more tends to become exclusively Tanguis cotton, and at present the four last named varieties have, for practical purposes, ceased to exist. The latest figures show that Tanguis and Pima between them now comprise some 97.5 per cent. of the whole crop, Tanguis alone accounting for 92 per cent.

The present crop has been good not only in quantity but also in quality, especially as regards the standard of cleanliness and colour. This has been helped by a long summer and the use of the local "guano," a perfect natural fertiliser. However, the spinning quality of the cotton was less than that of previous years, and it may be said that as regards grade and character Tanguis cotton has shown a progressive deterioration during the past few years. The local cotton mills increased their consumption of cotton

during 1933 by about 35 per cent. to 5,400 tons, marking a record for the Peruvian textile industry.

As regards exports a decrease has occurred in respect of the German market. As usual the greater proportion of cotton exports were purchased by Great Britain (about 68 per cent.) although the premium in Liverpool for Peruvian cotton was lower than in 1932.

54,833 metric tons to a value of 60,763,950 soles were exported in 1933 as compared with 46,266 tons in 1932, to a value of 33,938,000 soles. Exports during 1933 were shipped to the following destinations:—

	Metric tons					
Great Britain	37,899
Germany	12,092
Belgium	1,080
United States	1,639
Japan	798
Others	1,925

CROP PROSPECTS, 1934.

At the time of sowing and planting, crop prospects for the 1934 year were uniformly good, the growers in most valleys having been able to do the work relatively early as compared with previous years. About the same amount of land (330,000 acres) was put to cotton as in 1933, and a good crop was expected, although the weather in the early part of the growing season was not sufficiently hot. It may be said that at this critical stage of the growth of the plant the weather was much too unsettled, with too little heat during the day and too much coolness and moisture during the nights. It was anticipated by those having a good knowledge of Peruvian cotton-growing conditions that the 1934 crop would probably suffer severely as a consequence of these conditions.

However the plants were healthy with very little complaint of insect damage, which in any case in this country is usually of a light nature, except possibly in Piura, in the North, where all the Pima is grown and where insect pests are more generally found than in the other cotton valleys of Peru. At the time of sowing there were complaints of a shortage of "guano"—supposedly due to the authorities having made several large shipments of this fertiliser abroad, although it is understood that actually "guano" was not in such plentiful supply to hand as in previous years.

One feature of the crop preparations for 1934 was that farmers in a large majority of cases cut down the old roots and were mainly planting first-year cotton on their farms. In case it is not generally known it may be here mentioned that Tanguis cotton is not an annual, but possesses the property that up to as many as five or six successive yearly crops can be obtained from the same roots. This used to be quite customary in Peru but recently the farmers have become more educated and nowadays they try to get no more than three successive crops from the same roots.

CROP FINANCING.

The bulk of the Peruvian farmers obtain their loans, or "habilitations" as they are locally called, from the Banco Agrícola del Peru, which was established for this purpose in the summer of 1931 and which now constitutes the main, very nearly

the only source of supply of funds for the farmer. Since its establishment it has performed its work in a thoroughly satisfactory manner, and it may be said to be one of the most efficient institutions of its kind in the Continent.

Through this Bank's efforts the farming industry in this country is in a much better position than previously, the estates having been "cleaned up" from a documentary point of view, titles, mortgages, pledges, etc., having all been taken in hand and thoroughly investigated.

COTTON BUYING.

There exists strong competition to buy Tanguis cotton and it may be affirmed that this has developed to such an extent that the exporting side of the business is hardly worth-while from a financial point of view. The 1933 season was worse in this respect than in any previous one, and in contrast to the actual growers, exporters and brokers doing legitimate cotton exporting and merchandising business finally had a very meagre profit to show for their activity. Certain firms were said to have done reasonably well in their business, owing to their having undertaken large speculations in the Cotton Futures Markets both in Liverpool and New York, and also speculations in the local currency.

QUEENSLAND.

The harvesting of the 1933-34 cotton crop has now been completed in all districts, excepting some of those in the far-northern areas, where a few growers have still a small quantity to pick. The seasonable conditions in most of the cotton districts have been excellent, though in a few parts of the country exceptionally heavy rains just after planting time were the cause of almost a quarter of the whole crop being washed out. The past year's crop, though not as large as was anticipated, was, however, a record one, and cotton farmers have had reason to be fully satisfied with the results of their labours.

Good planting rains were experienced at the end of September, and later in most of the cotton-planting districts. Generally speaking, good stands have been obtained, and thinning operations are now under way in several districts.

The General Manager of the Cotton Board has announced that the ginneries would be closed down for this season early in October. The present year's crop has been a record one, the total quantities produced being 26,649,617 lbs. of seed cotton; 8,662,339 lbs of linted cotton, and 12,274 running bales of lint. The seed cotton figures are 46 per cent. more cotton than the previous record produced in this state. A total of 4,870 bales of lint has been sold overseas; the rest has been contracted for by Australian spinners.

Sufficient seed to plant approximately 44,404 acres has already been applied for, and there is every sign that the application for seed for planting will keep pace with, and probably exceed somewhat considerably, the plantings of last season. Also, in addition, enough seed to plant a substantial acreage, has been held over on the farms, by growers who could not burn their newly fallen scrub areas last spring owing to the exceptionally wet conditions.

(Textile Journal of Australia.)

(Extract from *Commonwealth of Australia Gazette*, November 1, 1934.)

RAW COTTON BOUNTY ACT, 1934: COTTON SUPPLIES COMMITTEE.

"It is notified, for general information, that in connection with the administration of the Raw Cotton Bounty Act, 1934, and related aspects of the Commonwealth Government's cotton policy, a Cotton Supplies Committee has been established to advise the Minister for Trade and Customs as to—

- (a) The quantity of raw cotton required each year for consumption by the various classes of users in Australia.
- (b) the procedure to be followed and the principles to be observed in relation to—
 - (i) orders by such users to be submitted to the Queensland Cotton Board for the supply of Australian raw cotton at the equivalent of Australian import parity prices free of Customs duty; and
 - (ii) the admission of foreign raw cotton free of Customs duty under the by-law provisions of the tariff; in the event of the Queensland Cotton Board being unable to supply users with the required types or classes of Australian raw cotton;
- (c) whether foreign raw cotton imported in pursuance of clause (b) (ii) hereof conforms exactly with the type or class of raw cotton originally ordered from the Queensland Cotton Board; and
- (d) other matters relevant to the foregoing items and the Commonwealth Government's cotton policy.

SALVADOR.

Effective October 10, 1934, the import duty on raw and ginned cotton was increased to \$9 (U.S.) per 100 gross kilos. (220 lbs.), according to the official press. The former rate was \$2.50. The declared purpose of the measure is to encourage cotton-growing in the country. Production of cotton reached sizable proportions in 1925, when 10,000 bales were exported but since that time production has declined owing to insect damage, and in 1933 only 180 bales were exported. Cotton plantings were increased this year, and a considerable proportion of the requirements of the two local cotton-spinning mills (estimated at about 5,000 bales for 1935) is expected to be supplied from the domestic cotton crop.

(*United States Department of Commerce.*)

ST. VINCENT.

The acreage planted for the 1934-35 crop is estimated at 1,200 to 1,400 acres as compared with 1,216 acres in 1933-34 and 2,535 on the average of the preceding five seasons. Weather conditions in September were favourable, and the young plants appeared to be progressing very well.

(*International Institute of Agriculture.*)

SUDAN.

The following is the Sudan Government estimate of the progress of the cotton crop for the current season (1934-35), as of November 30, 1934. It must be understood that these figures are only roughly approximate at this stage of the cotton season:—

	Area under Crop, Feddans		Picked to date, Cantars of	Total Yield, Cantars of
	1934-35	1933-34	315 rottles	315 rottles
Sakel:				Estimated yield above average
Syndicate	158,040	155,936	—	
K.C.C.	19,143	18,991	—	
Tokar	33,000	37,700	—	
Kassala	28,210	31,146	—	
Dueim	500	500	—	1,500
Private Estate	6,268	4,947	—	18,850
Total Sakel	243,161	249,220	—	—
American Irrigated	12,361	12,300	25,608	36,962
Rain-grown	78,000	59,414	21,526	118,888
Total American	90,361	71,714	47,134	155,850
Total Sakel and American	333,522	320,934	47,134	—

UGANDA.

The average planted up to the end of October, 1934, compares favourably with the 1933 total. The figures for Mengo, Entebbe and Masaka districts, however, have been calculated on a new basis; thus the increase in the average figure does not necessarily indicate an actual increase in planting, the latter being likely to be about the same as in the previous season. Throughout the Eastern Province, in Masaka district and in Lango district dry weather was experienced in October. It had an adverse effect on crop prospects; at the beginning of November indications were that the yield per acre would be somewhat below average.

(*International Institute of Agriculture.*)

U.S.S.R.

82.5 per cent. of the yearly plan for the acquisition of cotton by the State had been carried out by December 10, 1934, compared with 92 per cent. at the same date a year ago. Cotton picking is still proceeding in Central Asiatic regions. 84.0 per cent. of the plan of cotton purchases by the State had been performed in Uzbekistan, 91.0 per cent. in Turkmenistan, 57.3 per cent. in Tadzhikistan, and only 29.9 per cent. in the new cotton areas.

According to a recent report of the U.S. Department of Agriculture, Middle Asia experienced unusual weather conditions in the spring and fall of 1934, which were not favourable to the development of the cotton crop. The previously reported delayed and rainy spring and the early advent of fall frosts checked the

development of the cotton crop and increased the share of post-frost cotton (so-called "kusak" crop). Above normal air humidity also increased the moisture content of the cotton bolls, thus necessitating drying operations after harvesting in order to avoid losses through heating. Soviet press reports available to date indicate that despite the unfavourable weather conditions the crop is equal to that of last year, which, in view of the above described meteorological factors, seems rather doubtful, especially since the acreage under cotton is reported to be less than that of 1933.

Progress of harvesting clearly reflects the later maturing of cotton, with the quantity picked by October 1 only one-third of that of a year ago. Late maturing, however, is apparently not the only reason for the slow picking. Numerous reports complain of poor working discipline in the collectives and of the fact that, as a result of the unsatisfactory payment system for cotton picking, only about half of the male population is engaged in that work. As a result, cotton which has already matured is reported to be shedding. The quality of the harvesting work also leaves much to be desired, with losses feared from careless picking, which leaves part of the crop in the fields. The mixing of different varieties and qualities is also complained of. This latter fact may defeat the plan of the Government to improve the qualitative outturn of the domestic crop.

This year's procuring plan has apparently been fixed at 1,320,000 metric tons of unginned cotton, which would correspond roughly to 410,000 to 435,000 metric tons (1,890,000 to 2,000,000 bales of 478 lbs.) of ginned cotton, depending upon the ginning yield. The 1933 crop has been estimated at 1,889,000 bales. The fact that this year's procuring plan is fixed at approximately last year's level, whereas the acreage has declined, would seem to indicate that a somewhat higher yield per acre is expected this year, as compared with 1933-34. Reports on procurings up to early October indicate that the Government procuring plan is too high. In fact, the crop has been tentatively estimated by the Bureau of Agriculture at 1,700,000 bales, which is 189,000 bales less than in 1933.

REPORTED BOLL WEEVIL IN THE ARGENTINE.

Recent advices from the Argentine state that the boll-weevil has recently made its appearance in the cotton fields of that country. Although it is common enough in the United States and Mexico, there is little or no evidence of its having appeared heretofore in any other part of the world. Should these advices prove correct, it would certainly be a great blow to the cotton-growing industry of the Argentine.



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FINAL ESTIMATE OF 1934-35 COTTON CROP.

The preliminary final estimate of this year's American cotton crop, issued on December 8 last by the Washington Department of Agriculture, indicates a production of 9,731,000 bales, exclusive of linters. This is 97,000 bales larger than the estimate issued a month previous, and compares with 13,047,000 bales harvested last season and 13,002,000 bales two seasons ago. The crop total is exclusive of 19,000 bales grown in Lower California, where 18,000 bales were harvested last year. The average yield per acre this year is now estimated at 169.2 lbs., against 169.3 lbs. estimated in November, 1934, and final estimates of 208.5 lbs. and 173.3 lbs. for the 1933 and 1932 crops. The acreage harvested is put at 27,515,000, as compared with 29,978,000 harvested in 1933 and 35,939,000 in 1932, the average abandonment this year being 3.2 per cent, against 26.4 per cent last year (when it included the removal under the acreage restriction scheme) and 1.7 per cent in 1932. The Bureau, in its comments, says that the abandonment was more than usual in the drought areas of Texas, Oklahoma and Western Arkansas, but it was only nominal in the remainder of the Belt. The following table gives details, with comparisons (in thousands) —

	1934		1933	
	Harvested acres	Yield bales	Harvested acres	Yield bales
Virginia	59	39	65	37
North Carolina	970	650	1 090	684
South Carolina	1 282	695	1 379	735
Georgia	2 147	995	2 147	1,105
Florida	94	28	94	28
Missouri	320	245	356	253
Tennessee	769	412	884	443
Alabama	3 164	965	3 378	969
Mississippi	2 102	1 145	2 859	1,159
Louisiana	1 191	488	1 295	477
Texas	10 454	3 395	11 488	4 428
Oklahoma	2 740	325	2 915	1 966
Arkansas	2 247	875	2 583	1 041
New Mexico	93	92	96	94
Arizona	133	110	118	96
California	223	255	208	217
Other States	27	17	23	15
Total	27 515	9 731	29 978	13,047

GRADE AND STAPLE OF CARRY-OVER (PRELIMINARY).

*Published by the UNITED STATES DEPARTMENT OF
AGRICULTURE Bureau of Agricultural Economics
Division of Cotton Marketing.*

GRADE, STAPLE LENGTH AND TENDERABILITY OF COTTON CARRIED OVER IN THE UNITED STATES, JULY 31, 1934.

(Estimated from data obtained from the classification of samples representing American and foreign cotton held in storage in public warehouses, consuming establishments, and on farms, classed according to official cotton standards of the United States).

SUMMARY

	1934		1933	
	Bales	Per cent.	Bales	Per cent.
Total carry-over (as reported by the Bureau of the Census)	7,743,700	100.0	8,164,600	100.0
Total American upland	7,638,100	98.6	8,069,700	98.8
Total American-Egyptian	7,000	.1	9,800	.1
Total foreign-grown	98,600	1.3	85,100	1.1
Grades (American upland):				
White and Extra White				
Middling and above	4,752,200	62.2	5,025,700	62.3
Strict low and low middling	1,400,500	18.3	1,511,400	18.7
Below low middling	128,400	1.7	228,200	2.8
Spotted and yellow tinged	1,273,700	16.7	1,239,100	15.4
Light yellow stained, yellow stained, grey, blue stained	8,700	.1	4,700	—
No grade	74,600	1.0	60,600	.7
Staple (American upland):				
Shorter than $\frac{7}{8}$ in.	233,400	3.0	188,400	2.3
$\frac{7}{8}$ and $\frac{31}{32}$ in.	2,534,100	33.2	2,503,600	31.0
$\frac{11}{16}$ and $\frac{1}{2}$ in.	2,112,900	27.7	2,199,300	27.3
1 and $1\frac{1}{2}$ in.	1,477,400	19.3	1,774,600	22.0
$1\frac{1}{8}$ and $1\frac{3}{4}$ in.	615,600	8.1	671,700	8.3
$1\frac{1}{2}$ in. and longer	664,700	8.7	732,100	9.1
Tenderability, Section 5, U. S. Cotton Futures Act (American upland):				
Total tenderable	6,969,600	91.3	7,437,400	92.2
Tenderable $\frac{7}{8}$ to $1\frac{1}{2}$ in inclusive	5,709,500	74.8	6,065,800	75.2
Tenderable over $1\frac{1}{2}$ in.	1,260,300	16.5	1,371,600	17.0
Total untenderable	668,300	8.7	632,300	7.8
Untenderable in grade only	434,900	5.7	443,900	5.5
Untenderable in staple only	181,400	2.3	154,800	1.9
Untenderable in both grade and staple	52,000	.7	33,600	.4

AMERICA'S CARRY-OVER FORECAST, JULY, 1935.

Mr. Wallace, the Secretary of Agriculture, in a recent statement said that the aim of the Government is to bring the carry-over down to 8,500,000 bales by August 1 next and to 7,500,000 bales by August 1, 1936.

The South Points the Way.

In striking contrast to the unbending attitude adopted by the industrial northern section of the United States to defend the existing high tariff barriers at all costs, the following resolution, passed unanimously by the Texas Senate, will make interesting reading to Europeans. The Texas resolution reads as follows:—

“Whereas, Texas peculiarly depends upon its trade with foreign nations to a greater extent than any other state in the Union, and in this trading has been, and is now, curtailed in the buying and bartering in respect to 90 per cent. of all cotton grown within her territory, which has heretofore purchased goods from and exported her cotton to Europe and the Far East, and which exchanges have been brought to practically a complete standstill—

“During more than half a century of the early life of this Republic, we were admonished that this nation could not survive half free and half slave. The same doctrine applies to the condition of the cotton farmers of Texas to-day, for the reason that they are free only in their opportunity to compete with the world when they would sell their cotton, and are enslaved and restricted to the markets of America when they would buy such products as they are forced to have.

“Farmers of Texas desire no unfair tax in their behalf wrung from the industrial workers of the North, but they do demand an equal and unrestricted right of collective bargaining with foreign nations who purchase their products.

“If the tariff-protected industrialist would have us buy from him, we must first sell to those who would buy from us.

“If Europe would buy a billion dollars in cotton and wheat from American farmers, then these farmers should be given the privilege of having an opportunity of buying a billion dollars worth of products abroad. This is the only way that the channels of commerce and amity between nations may be kept open and the people within their respective domains may be able to live.

“The Senate of Texas looks with great concern and apprehension upon the loss of foreign markets who are ready and willing to buy our Texas products, yet through unfair and discriminatory legislation of high protective tariffs with protection of one as against the other, both our factories and our farms are languishing in the slough.

“Now, therefore, be it resolved, by the Senate of Texas, that a protest be, and is hereby made to the President of the United States in respect to those high and excessive import tariffs, which have in the past and now are interfering with the export business of this state and which are rapidly causing us to lose the cotton markets of Europe, which have always consumed a vast majority of this product; to the end that the President will take immediate notice of the situation and so far as he can with the powers vested in him, bring about an immediate reduction and adjustment of those high tariffs which now restrain the foreign sale of her cotton, and which will give us an unrestricted right of purchase from those to whom we sell, whether at home or abroad; be it further

"Resolved, that a copy of this resolution be transmitted forthwith to the President of the United States with the hope that some substantial relief may be obtained at an early date by the lowering of these tariffs and again opening up our channels of commerce so that relief may be had among the cotton growers of our state and that they be placed in a position where they will once more be self-sustaining."

U.S. COTTON PRODUCERS AND THEIR EXPORT MARKETS.

The following resolution was unanimously adopted at the annual meeting of the South-Eastern Division of the Chamber of Commerce of the United States in session at Birmingham, Ala., November 17 and 20, 1934:—

"Having changed its world status from that of a debtor to that of a creditor, the surplus producing United States must obey the rules applicable to a world creditor nation if it is to continue producing surplus cotton, wheat, lumber, naval stores, machinery, manufactures and the like for sale abroad, since payment for such exports can be made only through the processes of international trade.

"The Cotton Belt has, normally, produced approximately 15,000,000 bales of cotton per year, and is dependent upon the normal exportation and sale abroad of between 8,000,000 and 9,000,000 bales, from which it has drawn, annually, 500,000,000 or 600,000,000 dollars of fresh money, with which to feed renewed economic life blood into all Southern enterprise and purchasing power.

"The whole South is now acutely alarmed because of the rapid loss, to United States cotton producers, of their essential foreign market.

"The South attributes the loss of its export market (1) to the failure of the United States to set up and obey the rules applicable to a world creditor nation, (2) to the reduction, by law, for the purpose of artificially raising prices, of the cotton acreage in the United States to 27,000,000, while foreign producers were increasing their acreage to 45,000,000, and (3) to above-value loans on cotton in farmers' hands which impel hoarding on the grand scale, at a time when foreign producers are ready, able and willing to supply a rapidly increasing portion of the world's cotton needs on an international trade basis.

"The economic lives of probably 20,000,000 people, directly and indirectly, are dependent upon the production, ginning, transportation, financing, warehousing, buying and selling, and shipping of cotton.

"Obviously, the troubles facing the raw cotton industry in the South are, in fact, a menace to the national economy.

"We recommend that these facts be placed before the Directors of the Chamber of Commerce of the United States, with the request that the Chamber present them to the President of the United States."

THE "BOLLIE" CROP IN THE NORTH-WESTERN BELT.

According to a recent report of *The American Cotton Crop Service*, harvesting is much nearer completion in the North-western Belt than usual, owing to the relatively small "bollie" crop. Normally a very considerable amount of cotton is harvested and ginned during December and January in the North-western Belt. Concerning the "bollie" crop, we quote a late report from the Texas Panhandle as follows: "Weather for the making of a normally big 'bollie' crop has been general over Texas and Oklahoma, but this year in those portions of these States where there is usually a large 'bollie' crop, there is very little crop of any kind. So while the ideal weather has made some 'bollies,' and they will likely be gathered, especially in cases where the farmers hold more exemptions than cotton, they will not swell the total baleage materially this season. Practically all of the Plains cotton has gone into the loan, most of it, of course, at the 11 cent loan on account of poor staple."

American Cotton Difficulties.

MR. C. T. REVERE, the well-known American economist, of the firm of Munds, Winslow & Potter, of New York, during the course of an article which he recently contributed to the *Washington Sphere*, made the following statement, which we offer without comment:—

FORCED INTO PRICE-FIXING.

At various times we have concentrated on the plight of the farmer, only to find ourselves involved in schemes savouring of price-fixing that ended in disappointment and failure. Concentration of efforts on restoration of unsatisfactory textile conditions would be equally futile. Our merchandising system, developed through decades of orderly evolution, has been falling into decay, but no sound rehabilitation can be effected that ignores the interests of the producer, manufacturer, and final consumer.

Our cotton problem is organic and indivisible, a seed capsule that must be viewed as an essential whole and, thus treated, will have the vitality of life and growth, but, if segmented and subjected to partial treatment, becomes a lifeless nullity.

The cotton problem is the problem of agriculture, foreign commerce, the vast economy built up around the production and handling of our crop, the domestic textile industry, and our merchandising system, which over nearly a century and a half has been developed into the most efficient and economical distributive mechanism known to world commerce.

ATTACK PROBLEM AS A WHOLE.

Here is our cotton problem, and none of its subdivisions may be disregarded in an attempt at solution without resulting in dis-

locations and maladjustments that will remain as continuing bedevillments.

Both from a social and economic standpoint, to say nothing of political desirability, the major emphasis in our treatment of this question has been laid on a fair and equitable price for the farmer. There is a dual justice in this attitude. In the first place, the cotton grower is forced to compete in world markets, where prices conform to a living standard which our national pride should not ask him to accept. Second, he should not continue in his present domestic disadvantage, with the workers of industry aided, as they are, by tariffs and union wage scales.

Our efforts to relieve the cotton producer through measures laying supreme emphasis on *absolute* price certainty have not been uniformly successful. The net outcome of the Federal Farm Board venture was the accumulation of a huge unsold surplus and the stimulation of foreign cotton culture, with its threat to our position in world markets. The programme of the Agricultural Adjustment Administration was confessedly emergency in character, and while continuing to emphasise the price feature, succeeded through its production control in making substantial correction of a hostile supply situation. That it also served to increase the threat of competition from foreign production, however, is undeniable.

FINANCIAL CONDITION IMPROVED.

In appraising the emergency programme, it is essential to bear in mind two accomplishments. The plough-up campaign of last season resulted in the production of 13,047,000 bales, when the original planted acreage foreshadowed the possibility of a yield probably two million bales larger. The plan for 1934-35, aided, of course, by the South-western drought, brought forth a yield of 9,731,000 bales, according to the December 8 figures of the Crop Reporting Board. The strengthening of the statistical position ensuing from these policies is self-evident.

In addition to this, the financial position of the Cotton Belt has been enormously improved. Rental and parity payments last year reached a total of about \$164,000,000, in addition to which growers who co-operated in the plough-up campaign received benefits running into tens of millions of dollars through their participation in pool holdings. Disbursements for rental and parity payments for 1934-35 are placed at approximately \$116,000,000, with additional benefits accruing from last season's ten-cent loan.

The programme for the new season in rental and parity payments calls for a total of about \$94,000,000. Part of these disbursements have been financed through the processing tax, and collections from this levy from its inception up to November, 1934, amounted to a little over \$178,000,000.

EFFECT OF AAA PROGRAMME.

These disbursements and benefits, however, do not represent the sum total of returns to the Cotton Belt. Prices have advanced close to the 14-cent level, and at the present time are around 12½ cents, with producers protected against a decline by the offer of a Government loan of 12 cents per pound.

In summary, it may be pointed out that the AAA programme has aided in making a substantial correction of an unfavourable

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statistical position, and it has strengthened the financial and economic position of the cotton growers to a marked extent. Meantime, gratification over these achievements is somewhat clouded by the growing threat to America's dominance in the world cotton markets. Consumption of outside growths for the first time in history exceeds the consumption of American varieties. Foreign spinners are turning more and more to the use of the staple grown in other countries, due to price attraction, better exchange facilities, and perhaps underlying hostility to our cotton programme, which is believed to be motivated by higher price purposes.

NEED MORE SETTLED PLAN.

Assuming, as appears justified, that the major objectives of our emergency programme have been accomplished and that the threat of foreign competition calls for serious consideration, it is becoming increasingly evident that the time is approaching for the adoption of a more settled plan—not necessarily a fixed programme, but the institution of policies designed for effective competition in the world cotton markets, and thus calling for substantially increased production and involving the probability of a lower world price level.

An outlined policy, not subject to the frequent and disturbing changes incident to emergency conceptions, will make it possible for the various factors in the industry to enter confidently into essential forward commitments.

A self-contained nationalism in cotton would mean confining production within the limits of our domestic requirements, abandonment of foreign trade in this commodity, and the destructive re-vamping of the South's economic civilization. The repercussions from this latter development would be nationally catastrophic.

REVIVE OUR WORLD MARKETS

The objectives of a shift from emergency concepts to a settled programme in cotton consist of the recapture of our position in the world markets, the preservation of the vast economic system built up around the production and distribution of this commodity in the South, increased domestic consumption, and lower prices for cotton goods for the American consumer.

The Southern cotton grower, therefore, is asked to make the following contribution to this undertaking. To produce enough cotton of desirable quality, and at a price sufficiently low to meet outside competition. This is the foreign trade angle. In addition to this, his increased production will preserve employment on farms, at gins, in warehouses, in compresses, and on railroads, and every industry kindred to the South's great staple.

In other words, the Southern cotton grower is asked to play the part of economic saviour for an important segment of our national economy, and to aid valiantly in the restoration of our overseas trade.

However, this is likely to entail lower prices for cotton—world prices—in competition with India, Brazil, Argentina, Peru, Mexico, Africa, Russia, and, to some extent, Egypt.

It is all very well to "let George do it," but a nation which takes such pride in its standard of living, with industrial wage scales carefully compared with commodity indices, should not demand such patriotic devotion to an economic cause.

Out of the various proposals put forward to cope with this situation, a modified form of what has been known as the Domestic Allotment Plan appears to be the most feasible, particularly if it can be stripped of superfluous complexities in the interest of simplicity of application. Compensatory payments to growers, based on that percentage of their production which corresponds to the proportion of the crop domestically consumed, should provide a method for equitable adjustment of disparities.

COMPENSATORY PAYMENTS.

In previous discussions of this vexed problem, the writer has suggested a base aggregate of \$150,000,000 for compensatory payments, assuming that a removal of the more severe acreage restrictions might result normally in a yield of approximately 15,000,000 bales. Under average demand conditions, domestic consumption could be estimated at approximately 6,000,000 bales, thus involving distribution by the compensatory method of \$25 per bale to growers on two-fifths of their production.

The aggregate of \$150,000,000 could be used merely as a basis for compensation, with payments increased on a graduated scale in the event of declines below a fixed level, as, for example, a nine-cent world price. On the other hand, with an advance above nine cents, proportionate reductions in compensatory payments could be made.

In view of the benefits accruing to the national economy through recovery of our export trade in cotton, the increase in domestic consumption, and the stimulus imparted to Southern employment and purchasing-power, there appear to be justifiable grounds to make these compensatory payments out of general Federal income. This would relieve the cotton branch of the textile industry from special burdens, such as the processing tax, and permit the purchase of cotton goods by our own consumers on the basis of a world price for the raw material.

It is quite conceivable that strong political opposition may be aroused by what appears to be special consideration for the Southern cotton grower. Other agricultural interests might charge favoritism and clamour for relief from price hardships.

It is imperative, however, to draw a distinction between not only the position of various groups, but also their contributions to the national economy. Cotton plays a larger part in our economic scheme than any other product of the soil. Time and again it has contributed the lion's share to our balance of trade, and when it comes to employment, its ramifications are endless, far exceeding those of any other agricultural commodity.

Two aspects of the price element call for consideration. Compensatory payments to the cotton producer are justified on the ground of correcting inequalities and disparities with industrial groups. A sound formula developed along this line will do much toward remedying an unbalanced situation. This is a matter of relativity.

WHY WORK ?

A Texas cotton farmer, writing to the *Dallas News*, recently expressed his belief in Santa Claus in the following terms:—

"I believe there is a Santa Claus, because in 1933 I was paid \$10 per acre for ploughing-up cotton, besides getting an option on half-bale per acre, which amounts to \$10 per bale at present prices. This year I was paid 4 cents per pound for not planting cotton, and was given the acreage free to plant in cow peas, potatoes, etc.

"I'm being paid for not raising wheat, which gives me plenty of pasture for milch cows and work stock. I have been paid for my old cows that would have died this winter and am being paid for not raising hogs. I have had the penalty and interest remitted on my delinquent taxes, and this year the school bus runs by my place, and all children are transported to and from high school free of charge, where I formerly paid \$5 per month per pupil."

AMERICAN v. OUTSIDE GROWTHS.

The continued use of what are termed outside growths of cotton by spinners who normally use American cotton, is reflected in the following figures of cotton exports from the United States up to December 28th, 1934:—

AMERICAN COTTON EXPORTS

For week ending Friday, December 28th, 1934

			Since August 1st this year	Same Period last year	Decline per cent.	Increase per cent
Great Britain	..	..	360,174	743,502	50½	—
France	..	..	217,636	502,243	56½	—
Germany	..	..	221,641	792,668	72	—
Holland	..	..	37,357	64,448	42	—
Belgium	..	..	35,765	68,879	48	—
Denmark	..	..	25,576	30,336	16	—
Norway	..	..	3,535	3,171	—	12
Sweden	..	..	40,609	37,331	—	9
Portugal	..	..	14,619	23,642	37½	—
Spain	..	..	115,686	136,513	15	—
Poland	..	..	84,680	108,071	71½	—
Italy	..	..	220,327	371,048	40	—
Japan	..	..	917,577	989,632	7½	—
China	..	..	55,749	142,396	61	—
Finland	..	..	3,204	2,950	—	8½
Canada	..	..	106,929	122,342	12½	—
Total	..	..	2,461,064	4,139,172	40½	

Compared with the previous year, these show a decline of 1,735,862 bales. For the first time for a generation, the current figures show that American cotton production is now actually less than one-half of that of the total world. The United States Department of Agriculture estimates that of the 23,000,000 bales grown in the world, only 9,731,000 are of American origin, 13,269,000 being grown elsewhere. In the previous season, American production totalled 13,047,000 out of a world's crop of 26,100,000.

POOL COTTON.

Mr. Oscar Johnston, manager of the cotton producers' pool, is reported to have stated recently that he did not feel that there was any reason or justification for the trade expecting from the manager of the cotton pool to advertise his activities in handling the pool cotton. The Government was distinctly in the cotton business, and therefore must undertake to conduct that business as would any other cotton merchant. They had no definitely formed programme or purpose other than the frequently declared purpose to liquidate this pool according to their best judgment, and in so far as they could, without serious market disturbance.

Several New Orleans merchants who recently purchased cotton from the producers' pool are complaining that a large proportion is "shy." In fact, one merchant stated that out of a lot of 571 bales only 12 per cent. was up to specifications. It was necessary for this merchant to replace the pool cotton, which was needed for a specified sailing, with other purchases, and he is now compelled to carry the pool cotton until some disposition may be made of it.

While the buyers of this pool cotton are protected to a certain extent by arbitration, the inconvenience and annoyance have occasioned considerable complaint.

Trend of Cotton Production in U.S.

The *American Cotton Crop Service*, writing recently on the trend of cotton production in U.S.A., gives its views as follows :

THE ACREAGE TREND.

With two years of bonus payments to cotton growers for cotton acreage control now history, it is not difficult to forecast the present trend of agriculture activity in the Cotton Belt. Tax control of production evidenced by the recent vote of 9 to 1 for retention of the Bankhead Act, followed a few days later by an overwhelming vote in favour of the Kerr-Smith Tobacco Act, indicate that so long as the Government Relief Agencies continue to operate, along with the "pegged" price of 12 cents per pound for lint cotton, farmers will not go back to the non-acreage control age. There are many factors which have contributed to this unusual change in the agricultural situation in the Cotton Belt. In the order of their importance, we believe the most important are as follows:—

1. Effect of the plough-up campaign of 1933, which taught cotton-growers the value of co-operation.
2. Increase in the price of cotton, which growers attribute almost exclusively to their acreage reduction efforts.
3. Federal Land Bank Loans, which liquidated the most pressing mortgages.
4. Huge Government crop production loans.
5. Activity of the C.W.A. and the F.E.R.A. in supplying work for farm labour not otherwise employed.

U.S. COTTON SUPREMACY.

"Rugged individualism" among nations may force the United States to adopt a policy of economic nationalism in self-defence. On account of the millions of dollars that have been paid out in the Cotton Belt by the various Government Relief Agencies, together with the "pegged" price of 12 cents per pound for lint cotton, cotton-growers have been so anesthetized that almost any law relating to acreage control will be enforced by the growers themselves. Furthermore, it is generally recognized by cotton students that crop production control will continue well through the Roosevelt second term, together with various forms of Government relief. Therefore, we believe the present trend points to a policy of "self-imposed cotton production nationalism" with the definite surrender of U.S. cotton supremacy already about us. Supporting this conclusion, we call attention to the fact that reciprocal trade agreements and barter plans have made little headway with other nations. Foreign acreage to cotton is being constantly increased with resultant decrease in our cotton export trade. Efforts in most foreign countries since the World War have been concentrated on producing within their own borders all the goods for which there is a demand. Therefore, we seriously doubt, even if the United States reduced tariffs 25 to 50 per cent., whether foreign nations would respond in a similar manner.

BANKHEAD ACT QUOTA FOR 1935-36.

A Reuter message recently emanating from Washington stated that further inducements to American farmers to grow less cotton were announced on January 17, by Mr. Wallace, the Secretary of Agriculture. Mr. Wallace stated that under the voluntary cotton adjustment programme producers would be allowed to make an additional cut in their acreage up to 35 per cent. of their basic acreage and would receive additional benefit payments for doing so. Under the original adjustment programme farmers were asked to reduce their acreage between 25 and 30 per cent.

The quota under the Bankhead Act, which seeks to prevent over-production, has been fixed for the current year at 10,500,000 500-lb. bales. Expressed in bales of 478 lbs. net, this quota, together with last year's carry-over of 700,000 bales, brings the total for 1935 to 11,700,000 bales.

These 700,000 bales represented the unconsumed portion of the 1934 quota.

SECRETARY WALLACE'S ANNUAL REPORT.

The following extracts from the Annual Report of Mr. H. A. Wallace, United States Government Secretary for Agriculture, will no doubt be of interest to our readers.

RECIPROCAL BENEFIT OF EXPORT TRADE.

Europe needs the farm goods we have to sell, and forgoes them

only from necessity. The advantage to the American farmer of enabling Europe to buy here once more would be enormous. American agriculture depends far more on foreign trade than does American industry. From 1921 to 1930, this country exported more than 13 per cent. of its farm production, and the trade constituted about a third of its total exports. Moreover, this third represented only primary agricultural products, such as wheat, and flour and cotton. It did not include many agricultural products elaborately manufactured and exported as manufactured goods. Since 1929 our far export trade has declined in value nearly 60 per cent. Restoring it substantially, through some increase in industrial imports, would give agriculture new life.

There would be no countervailing penalties upon industry. Broadly agricultural trade can increase only through an increase in the number of consumers. This is a consequence of the often-mentioned limitations of the stomach. Hence the only feasible alternative to the recovery of the agricultural export trade is the contraction of agriculture. No similar contraction of industry would result from an increase in industrial imports. For many industrial products the potential demand is boundless. Upon agricultural consumption the final limitation is physiological. Upon industrial consumption the final limitation is simply purchasing power. Whatever increases purchasing power increases the manufacturer's market. Hence the admission of foreign goods into the American market, since it would be accompanied by an increase in the purchasing power of the farmers, would handicap industry far less than the alternative policy of enforced farm contraction would handicap agriculture.

NEED FOR CONTINUED COTTON ADJUSTMENT.

There are possibilities for substantial cotton-acreage expansion in India, Africa, Russia, China, and South America, and the extent of the expansion which occurs will depend to a considerable extent upon prices. American growers should bear these facts in mind without over-estimating their significance. They do not warrant a return to unregulated production in order to hold this country's position in the world market. Foreign cotton production, in many countries, meets with great difficulties of climate, soil, labour, and transportation. Cotton production cannot be expanded very rapidly in these countries. It is easier for the United States than for the competing countries to adjust the output of cotton to a rising demand. No single large area anywhere else in the world is so well adapted to cotton production as the southern part of the United States. Our natural advantages in the production of this crop do not vanish when we eliminate the irregularities of supplies and adopt a programme of production control. Production control is not a matter of rushing from one extreme to the other—but simply of continuing to adjust the production to the demand, foreign and domestic. We wish to retain our foreign market; and this means that we must continue to supply it at moderate prices. But we do not wish to keep prices ruinously low on the assumption that any improvement through the elimination of the surplus will cause a loss of our foreign markets. We must not therefore, permit an increase in foreign production to stampede us back into overplanting.

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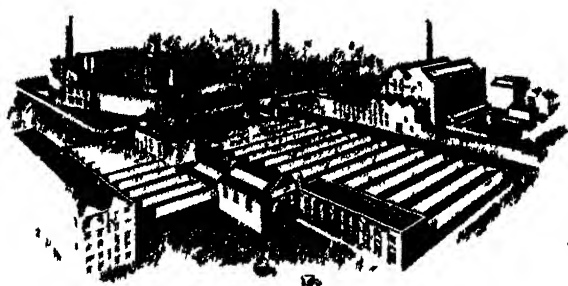
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AMERICAN COTTON OUTLET IN CHINA.

The price spread between American and Indian cotton in China continues to be larger than usual, and the outlook for American cotton exports to China during the 1934-35 season remains unfavourable, according to a dispatch from the U S Consular Office at Shanghai. Arrivals of American cotton and shipments afloat to China are very small, but existing Chinese stocks of American cotton are sufficient for some months to come.

Arrivals of new crop native cotton have decreased during the past month. Reports indicate that it is being held in the interior for better prices. A limited supply of the better grades continues to arrive on markets, however. There is an increase in demand for Indian cotton, and it is expected that the demand will continue to increase during the next month, provided prices do not advance.

Mill production during November continued at about the same level as during October. There is some possibility of a curtailment in production in future months, due to low returns and lack of demand for yarn. To date, however, yarn stocks have not increased materially and prices have continued steady. There has been a seasonal increase in yarn sales to North and South China and to the interior, but the future outlook is somewhat unfavourable. The proposed increase in the tax on yarn is still pending, and new petitions have been made by mill owners requesting that the proposal be rescinded. It now appears doubtful that the proposed refund to spinners on piece goods and yarn exported from China will be incorporated in the measure making the yarn tax effective. Reports continue to indicate that some measure will be taken to increase the tax on either cotton or yarn regardless of objections raised by mill owners.

(Foreign Crops and Markets)

MARKET REPORTS.

Messrs Weil Brothers, of Montgomery, Alabama, in their semi-monthly crop letter, dated January 3, 1935, state as follows:

The least that can be said of the cotton trade outlook for 1935 is that prospects are uncertain, especially as they affect cotton merchants or dealers. Their problem is not easy to solve. On the one hand they are handicapped by the limited amount of cotton offered for sale direct from farmers during the season 1934-1935. This is attributable largely to the amount of cotton turned over to the Government under the 12-cent loan. On the other hand, merchants are deterred from selling the normal quantity of American cotton for exportation, because cotton-using countries of the world have given preference to foreign growths, of the same intrinsic value, at prices ranging from 1 cent to 1½ cents below American growths. The contention has been made that economic conditions and scarcity of dollar exchange are largely the cause of limited cotton exportation from the United States. That may be

true to some extent, but cotton is a cash article wherever bought—whether in South America, India, Egypt, or the United States.

There is another picture: The southern cotton farmers are exceedingly prosperous and the South's retail trade is reaping the benefit of this prosperity, which is confined mainly to larger farmers and landowners. The small farmers—the one-horse or tenant farmers—feel prosperity to a much lesser degree, being barely able to make ends meet. As a rule they live in wretched habitations—a condition that ought to be remedied. This improvement in living conditions would assist greatly in bringing about a more permanent prosperity in the South.

For the moment there is very little change in the basis. Domestic demand is in keeping with the season. It is spasmodic and the spinners of the United States are largely committed to a hand-to-mouth policy so far as buying cotton is concerned. Meantime, the domestic cotton goods markets are firm, and it is expected that the expansion of trade in the United States will improve the demand for cotton goods of all kinds, beginning with the turn of the year. There is no perceptible increase in foreign demand.

The weather during the major part of December was not propitious for farm work. It is reported that fertilizers will be higher and that sales prices of mules have advanced from 25 per cent. to 50 per cent.

CROP REPORT.

American Cotton Crop Service, Madison, Florida, cabled on January 23, to the effect that the weather during the past week has been favourable to farm work. We believe the Agricultural Adjustment Administration will have no trouble in getting cotton growers to reduce acreage 35 per cent. instead of 25 per cent., as per contract signed last year.

AMERICAN DOMESTIC COTTON CONSUMPTION.

Month	October, 1934, with Comparisons (Exclusive of linters)							Per cent this year is of
	1913-14 Bales	1930-31 Bales	1931-32 Bales	1932-33 Bales	1933-34 Bales	1934-35 Bales	1933-34 average Bales	
August	432,350	352,626	425,030	404,497	558,902	420,949	465,962	90.4
September	442,435	303,390	464,335	492,742	499,482	293,980	479,157	61.8
October	511,923	448,284	461,023	501,893	504,055	520,310	510,003	102.0
Total, three months..	1,386,708	1,104,300	1,350,388	1,399,132	1,562,439	1,237,219	1,455,122	85.0
November	456,356	415,315	425,228	502,434	475,247	—	471,875	—
December	456,262	405,518	415,401	440,439	347,524	414,000	412,313	—
January	517,299	450,117	434,726	470,182	508,021	—	487,841	—
February	455,231	438,376	451,239	441,203	477,046	—	459,452	—
March	498,354	490,500	468,907	495,183	544,870	—	505,423	—
April	499,846	508,691	366,481	470,359	512,594	—	478,007	—
May	466,744	465,363	332,372	620,561	519,299	—	482,176	—
June	446,145	453,901	322,706	697,261	363,262	—	448,573	—
July	443,343	450,884	278,568	600,641	359,051	—	413,813	—
Total, 12 months..	5,626,078	5,262,971	4,866,016	6,137,395	5,700,253	—	5,614,495	—

GOVERNMENT GINNING REPORT.

According to the report issued on January 23, by the Census Bureau, the amount of the American cotton crop of 1934 ginned up to the close of business on January 15 was 9,380,000 bales. This compares with 12,557,000 bales to the same date last year and 12,415,000 bales two years ago. The amount ginned since December 12, when the last report was compiled, is 206,000 bales, against 201,000 bales in the corresponding period last season and 334,000 bales two seasons ago. The total includes 192,000 round bales and 13,000 bales American-Egyptian, against 592,000 round bales and 7,000 bales American-Egyptian shown in the corresponding report last year.

The following table gives details of ginnings with comparisons:—

	1935	1934	1933
Alabama	935,000	949,697	927,909
Arizona	101,000	86,184	60,219
Arkansas	844,000	1,005,784	1,253,011
California	239,000	191,745	119,633
Florida	24,000	24,091	15,429
Georgia	971,000	1,090,318	852,779
Louisiana	472,000	468,358	597,778
Mississippi	1,119,000	1,129,726	1,148,820
Missouri	224,000	231,523	289,801
New Mexico	83,000	85,522	64,063
North Carolina	633,000	685,395	667,268
Oklahoma	323,000	1,222,729	1,051,812
South Carolina	679,000	723,229	707,905
Tennessee	394,000	425,144	451,372
Texas	2,292,000	4,190,590	4,164,269
Virginia	33,000	33,686	30,027
Other states	14,000	13,008	12,784
Total	<u>9,380,000</u>	<u>12,556,729</u>	<u>12,414,899</u>

AMERICAN VERSUS OUTSIDE GROWTHS—THE AMERICAN VIEW-POINT.

Arising out of a conference which President Roosevelt held recently with several members of his Cabinet, Mr. H. A. Wallace, Secretary for Agriculture, is reported to have made the following statement with reference to the competition of outside growths with American cotton:—

"Those who are most alarmed about it, it seems to me," said Secretary Wallace, "are basing their judgment on too short a period. It is quite true that the enormous carry-over of American cotton existing in 1932 has been sharply reduced, so that the world supply is now 6,000,000 bales lower than it was two years ago. Meanwhile the supply of foreign cotton is 1,600,000 bales larger than last year. Foreign increases has thus cancelled out about

one-fourth of our reduction. Stated baldly, that does not look too good, but it is far from a complete picture."

He referred to "a very careful survey by the Bureau of Agricultural Economics" which "concludes that further expansion of cotton acreage outside the United States is not likely to be a serious factor."

The Natural Resources Board has just reported to the President that prospects for cotton appear more favourable than most of our agricultural exports—the United States can profitably produce cotton to sell at a lower price than most other countries producing a similar grade.

"There are large new areas in foreign countries that could be devoted to cotton," it said, "but it is improbable that foreign production will be expanded enough to reduce greatly our export possibilities unless the price of American cotton is kept so high as to allow foreign growers to sell at a price which makes cotton-raising in these countries more profitable than other agricultural pursuits."

SUPPLY AND DISTRIBUTION OF COTTON IN THE UNITED STATES.

SUPPLY AND DISTRIBUTION OF COTTON IN THE UNITED STATES

Linters are included for the years 1905-6 to 1912-13 inclusive, but are excluded for the years 1913-14 to 1933-34

(Compiled from reports of the U.S. Department of Commerce)

Year	Production, running bales*	Supply Carry-over from previous year	Imports, equivalent 500 lb. bales	Exports, running bales*	Distribution Consumption, running bales*	Stocks on hand at end of year
	1,000 bales	1,000 bales	1,000 bales	1,000 bales	1,000 bales	1,000 bales
1905-6	10,495	1,935	133	6,975	4,877	1,349
1906-7	12,983	1,349	203	8,825	4,974	1,515
1907-8	11,058	1,515	141	7,780	4,498	1,286
1908-9	13,086	1,286	165	8,800	5,092	1,484
1909-10	10,073	1,484	151	6,492	4,622	1,040
1910-11	11,568	1,040	231	8,026	4,498	1,375
1911-12	15,553	1,375	329	11,081	5,129	1,777
1912-13	13,489	1,777	225	9,199	5,483	1,648
1913-14	13,963	1,511	266	9,256	5,577	1,366
1914-15	15,906	1,366	364	8,323	5,597	3,396
1915-16	11,066	3,396	421	5,896	6,398	3,140
1916-17	11,364	3,140	288	5,300	6,789	2,720
1917-18	11,248	2,720	217	4,288	6,566	3,450
1918-19	11,906	3,450	197	5,592	5,768	4,287
1919-20	11,326	4,287	683	6,545	6,420	3,563
1920-21	13,271	3,563	211	5,745	4,893	6,534
1921-22	7,978	6,534	332	6,184	5,910	2,832
1922-23	9,729	2,832	450	4,823	6,666	2,325
1923-24	10,171	2,325	272	5,656	5,681	1,556
1924-25	13,639	1,556	303	8,005	5,193	1,610
1925-26	16,123	1,610	314	8,051	6,456	3,543
1926-27	17,755	3,543	382	10,927	7,190	8,762
1927-28	12,783	3,762	321	7,540	6,834	2,586
1928-29	14,297	2,586	442	8,044	7,091	2,812
1929-30	14,548	2,812	368	6,690	6,106	4,590
1930-31	13,756	4,590	90	6,760	5,263	6,370
1931-32	16,629	6,370	107	8,708	6,666	9,078
1932-33	12,710	9,078	130	8,419	6,137	8,165
1933-34	12,664	8,165	148	7,584	5,701	7,746

* Round bales counted as half bales.

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EGYPTIAN COTTON

Features of Egyptian Cotton during 1934.

The year 1934 has been in many respects a good year for Egyptian cotton. Roughly 8,600,000 cantars have been exported, compared with 7,750,000 cantars in 1933, and 6,700,000 cantars in 1932; all Government stocks have been finally disposed of; and the average price-level has been in the neighbourhood of \$13 per cantar, against \$11½ in 1933 and \$11 in 1932, so that the value of exports has been approximately £E.22,000,000 against £E.18,000,000 in 1933 and £E.15,000,000 in 1932. On the other hand, the 1934-35 harvest has not fulfilled early promise, and it seems unlikely that total production will exceed 7,800,000 cantars, the value of which, calculated at the average selling price to date, is roughly £E.20,000,000. In point of quality, however, the crop generally has proved disappointing.

The market for Egyptian cottons has benefited throughout the year from the policies of the Roosevelt Administration in America, which have virtually pegged prices and have at the same time given a considerable stimulus to demand for our cottons in substitution for Americans from European and Far-Eastern consumers.

A notable feature of 1934 has been the enormous increase in production of Giza 7 cotton. The 1932 crop of this variety was little more than 100,000 cantars; in 1933 the figure rose to 350,000 cantars; in 1934 the acreage has been more than doubled and production is estimated at over a million cantars. Whether demand will expand to meet the greatly increased supply remains to be seen. 1934 shipments have been somewhat disappointing, but there are signs of a broadening enquiry at the present price-parity with Ashmouni.

Another notable development during the past year has been the introduction by the Egyptian Government of legislation designed to put a stop to the practice of mixing different varieties of cotton up-country and at Alexandria, and thus calculated to enhance the reputation of Egyptian cotton overseas. The new law, which came into force on September 22, 1934, caused grave misgivings at first, but it has been found to operate smoothly in practice.

(Egyptian Gazette.)

The Future of Sakel.

The *Manchester Guardian Commercial* published on January 11 last an interesting supplement entitled "Egypt."

Among the excellent articles contained in this publication those of especial interest to cotton men will be the following:—

"A Plan of Control for Egyptian Cotton" (Col. B. H. Waters-Taylor and H. Craig).

"Where Egyptian Cotton is Essential" (George Pilavachi).

"Financing the Cotton Crop" (Sir Edward Cook).

"The Progress of Cotton Research" (Dr. W. L. Balls).

"Eliminating the Cotton Middleman" (H.E. Emine Yehia Pasha).

We quote the following from "The Future of Sakel," written by Hussein Enan Bey, Director of the Agronomics Section, Ministry of Agriculture:—

COTTON has been grown in Egypt for over a century, during which period many varieties have been planted, but it was only when the American Civil War broke out that Egyptian cotton began to be exported in substantial quantities. The high prices attained at the time, together with continual improvements in marketing, have promoted its importance in Egypt as a crop for export.

In reviewing the history of the numerous varieties it becomes evident that only in two stages, or perhaps three, has there been a radical change. From the appearance of Ashmouni, about the year 1860, there was no other variety of importance in existence until Mitafifi cotton was brought into cultivation in 1882, to be followed by Abbassi in 1893 and Sakellaridis in 1906. The Mitafifi was definitely superior to Ashmouni, from which it was selected, in its higher ginning outturn and in its longer and finer staple. It reached its zenith in 1905, when it constituted 75 per cent. of the cotton exports. Abbassi cotton was characterised by its white colour, and although it was not liked by spinners in the early years of its appearance it was well in demand a few years later. However, it did not last long on account of its low yield. Following these two varieties, the next of importance was Sakel, which has contributed a great deal to the present standing of Egyptian cotton in the world's markets.

To predict the future for this cotton—the object of this article—is a matter that must be looked upon from various aspects. Let us discuss it first from a grower's point of view. To the grower, if its prices are sufficiently high, it will be a paying crop, in spite of its low yield as compared with other varieties existing at present. Before the present crisis Sakel was a paying crop, but since its price dropped it has ceased to be the best paying crop, and has been replaced to a great extent by higher yielding varieties such as Giza 7 and others.

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multiplying yield by price. It is perhaps rightly estimated that as long as Sakel prices are 20 to 30 per cent. over the prices of Ashmouni it will continue to be grown, and it will remain in its specialized zone in the north of the Delta, where the best qualities are produced and where no other cotton can be grown successfully on account of the salty nature of the soil. Sakel stands saline conditions better than other varieties.

Within the limits of the variety the lower grades of Sakel will cease to be sold at a profit, while the extra grades will always be produced at a profit. Taking a reasonable premium between Ashmouni and Sakel of 30 per cent. in prices, calculating the monetary value of the respective lint yields of both varieties, and employing both yield and prices as percentages, we get—

A.—In the lower grades:—

Ashmouni at 100 piastres multiplied by yield of 150 = 15,000.

Sakel at 130 piastres multiplied by yield of 100 = 13,000.

B.—In the extra grades of “4-5 dollars on”:—

Ashmouni at 110 piastres multiplied by a yield of 150 = 16,500.

Sakel at 200 piastres multiplied by a yield of 100 = 20,000.

which shows that for the same yield extra qualities of Sakel will be profitable to grow, while lower grades will be produced at a loss compared with Ashmouni. There is no question that qualities such as those produced by the State Domains Administration, where the premiums paid are 75-100 per cent. over contract Sakel prices, pay well, and such grades will be the last to disappear from the Egyptian cotton markets. There are certain districts which will not produce good Sakel qualities, and in these Sakel is being replaced to a great extent by other more profitable varieties, such as Maarad and Giza 7. This replacement will become complete as time goes on, but the cultivation of Sakel cotton in Egypt will continue—within limits—until some better-quality cotton is produced, a cotton which will be sought after by the trade, but always provided that its prices are encouraging to the farmer.

The future of Sakel from a spinner's point of view is indeed a very complicated matter, as it depends on purely economic circumstances. In the first place, the competition of artificial silk must be taken into consideration, and, secondly, until some of the world's economic problems are solved, an appreciable increase in demand is not likely. Spinners are, however, rather optimistic about its future, as the demand for fine cottons has been increasing gradually in the last year. The cotton exporters in Alexandria seem to think that there will always be a demand for Sakel in quantities varying from 1,250,000 to 1,500,000 cantars, equivalent to 160,000 to 200,000 bales a year.

The depression in prices of Sakel has been the outcome of the crisis. Public demand has been for the cheaper goods, and consequently cheaper raw materials have had to be used. The tyre industry, which used to be a big buyer of Sakel cottons, has ceased to be one, since now tyre yarn fabrics are made of shorter staples. Nevertheless, a fair demand still exists in other industries which need cotton as raw material.

There are other factors which may have had an influence on the Sakel trade. Spinners have complained of a deterioration in its

quality for some years past, but it is doubtful whether they receive this product exactly as it is picked. The marketing and trading systems adopted seem to be responsible, because there is no question of seed deterioration. On the contrary, the seed sown nowadays is certainly purer than ten years ago. It is hoped that the results of the new law to prevent mixing of different varieties of cotton, which is being enforced this year, will be appreciated by the spinners.

The Egyptian Government is sparing no effort to better the cotton crop, and has put into operation a very efficient system of planting with pure seed. Steps are now being taken to market this product in a manner acceptable to the consumer. Such a policy will tend to enhance the reputation of Egyptian cotton and so increase the demand for it.

The question may be asked how far Giza 7 cotton can affect Sakel; the answer would be that, provided prices remain as they are at present, Giza 7 will score over Sakel, but if once Sakel prices were to resume their old premium the latter would certainly resume its merited position. Giza 7 will replace the low qualities of Sakel and will compete with other existing varieties, since it equals them in yield, while providing a finer staple. It has appeared at the right moment, and credit to the cotton plant breeders in Egypt is due for their success in producing such a cotton.

My conclusions are that Sakel will always be in demand, and that a quantity of 160,000 to 200,000 bales a year will always find a ready market. A price for Sakel equivalent to 20 to 30 per cent. over Uppers is considered to be the minimum margin to keep it profitable. Even then the low qualities of Sakel will cease to exist and will be replaced by other varieties.

LONG STAPLE COTTON IN U.S.S.R.

In Middle Asia and Transcaucasia the area sown to long-staple varieties of cotton is increased.

This year some of the best varieties giving a staple of 29 and 30 mm., and even longer, have taken up an area of 270.6 thousand against 79 thousand hectares last year.

One quarter of the cotton delivered to the mills of the Union by the end of November was of the long-staple variety. In 1933 these varieties did not exceed 6.5 per cent. of the cotton delivered to textile mills from cotton cleaning factories.

Next year a still larger quantity of long-staple cotton will be grown. According to the plan drawn up by the People's Commissariat for Agriculture, these varieties will take up more than a third part of the area under cotton in the whole Union.

(U.S.S.R. Chamber of Commerce.)

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Cotton Production in Egypt.

ON the assumption that the "looker-on sees most of the game," our many Egyptian friends will be more than interested in the very ably-written pamphlet on the above subject, compiled by no less an authority than Mr. P. K. Norris, of the United States Department of Agriculture. Mr. Norris has spent many years in Egypt, and, hailing from a cotton-producing country himself, is well able to discuss such a subject. The following is extracted from his report:—

Egypt is primarily an agricultural country. Of the more than 15,000,000 inhabitants, 12,750,000 depend directly or indirectly upon the agriculture of the Delta and the narrow valley of the Nile River. This area, although one of the most fertile and productive areas of the world, would be as worthless as the surrounding desert were it not for the waters of the Nile. All crops are grown by irrigation. The rainfall at the sea coast is about 8.5 ins., and in parts of Upper Egypt rain is practically unknown.

The productive area is limited to the valley and Delta of the Nile River, and this includes 8,451,669 acres, of which a little more than 2,808,361 acres are given over to low marshy swamps, canals, highways, railroads, cities and towns. This leaves 5,643,308 acres of farming land. In many of the districts of the Delta the population is more than 2,000 per square mile, and it averages more than 1,000 per square mile for the entire inhabited area of the country. It is estimated that the population of Egypt is increasing at the rate of 200,000 to 275,000 per year. This increase will eventually require all the available land. The swamp areas will be reclaimed and the areas that are now basin-irrigated will be converted to canal irrigation, and will thus produce two or more crops annually.

The oldest type of irrigation known in the country is the flood or basin type. It is still common in Upper Egypt, but much of Middle and all of Lower Egypt is now under canal irrigation. With basin irrigation, waters of the Nile, during its annual flood, are diverted into large basins. After saturating the soil for a depth of several feet the water is drained back into the river. Under this system the land not only receives its annual water supply but a supply of silt is deposited over the flooded area. The annual renewing of the soil is an important factor in Egyptian agriculture. Crops are planted after the flood has passed, and unless water is pumped from wells during the summer months, the fields receive no additional water. Basin-irrigated land, therefore, grows only one crop a year unless there is this summer pumping.

Under canal irrigation a supply of water is kept under control and can be used as needed throughout the year. After one crop is harvested the land is again watered and made to produce a second, and in some cases a third. This system has its advantages over the basin type in that a crop can be growing on the land at all times, but it has its disadvantages, among which is the loss of a large part of the silt deposits resulting from the flood.

Cotton as a commercial crop in Egypt is a little more than 100 years old. The early crops were grown by order of the State, but in a few years production gained a foothold, and cotton is to-day the chief export crop. In fact, it forms about 90 per cent. of the total exports of the country.

As early as 1820 the crop was estimated at 200 bales; by 1861 it had reached 150,000 bales. The American Civil War was largely responsible for the early increase in Egyptian cotton production. At the outbreak of that war European spinners were cut off from American supplies and were forced to look for other cotton. This gave Egyptian cotton its opportunity, and Egyptian growers were quick to take advantage of the situation. By 1864 the crop had reached 414,000 bales, an increase of more than 260,000 bales in three years. After the close of the war the Egyptian crop not only held its place but continued to increase. By 1879 the crop was more than 622,000 bales. During the period between the close of the Civil War and the outbreak of the World War cotton production continued to expand. New lands were brought under irrigation. New irrigation works were constructed. Every effort was made to increase the cotton area until in 1914 a crop of 1,334,000 bales were harvested from an area of 1,822,000 acres.

The year 1914 marks the end of a period of uninterrupted increases in the cotton acreage of Egypt, and the beginning of a period of wide acreage fluctuation. At the outbreak of the World War 1,822,000 acres in Egypt were planted to cotton, but the following year, because of a governmental decree, the area was reduced to 1,231,000 acres. The record planting of 1930 reached 2,162,000 acres.

During the last five years the annual acreage has fluctuated between 2,162,000 acres and 1,135,000 acres, or by more than 1,000,000 acres. In 1932 the acreage was 1,135,000 and the 1933 acreage of 1,873,000 represented a 65-per cent. increase above the 1932 area. These fluctuations indicate that the Egyptian farmer can and will shift his cotton acreage when conditions justify. With the present system of rotation and the most favourable conditions, the past cotton acreage has exceeded 2,000,000 acres only once.

The transportation system of Egypt is very good, and other conditions for the importation of food are favourable, but the country depends almost entirely upon domestic grain production for its food supply. In view of this dependence, it is doubtful whether the present relationship of the cotton acreage to the grain acreage will be materially altered.

A substantial permanent expansion of the cotton acreage will involve reclaiming a part of the waste land. This will require the extension of the irrigation and drainage systems of the country. The first step in a programme of this kind would be the construction of storage dams on the White Nile in the Anglo-Egyptian Sudan. Other improvements would include a dam in Abyssinia and other work in the Sudd region of the Upper Nile. The work within the country would include the construction of canals and drains in the lower delta. To put through the whole programme of reclaiming the entire agricultural area would cost about \$197,500,000—a very large sum for a country the size of Egypt.

THE EGYPTIAN COTTON YEAR BOOK

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The cost is not the only problem involved. It is estimated that if this programme were started at once it could not be completed in less than 20 years.

A change of cotton production has been taking place in Egypt that is probably of far more importance to American cotton growers than is the expansion in acreage. This is the shift to the higher yielding but shorter staple varieties of cotton. Egyptian cotton is referred to as the longest staple commercial cotton grown. This is not true to the same degree as a few years ago. The present trend is toward a shorter staple. In 1922, Sakellaridis and other long-staple varieties occupied about 75 per cent. of the total cotton area, and Ashmouni and Zagora and other shorter staple varieties occupied about 25 per cent. By 1932, Sakellaridis had decreased to 43 per cent. whereas the shorter varieties had increased to about 50 per cent. of the total cotton area.

It is possible that in the future as much as 80 per cent. of the Egyptian crop will range between $1\frac{1}{8}$ and $1\frac{3}{8}$ -inch staple. With an average crop, this would mean from 1,000,000 to 1,500,000 bales of a staple length comparable with the best American staples.



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PROPOSED EGYPTIAN-GERMAN COTTON BARTER.

Now that the proposed barter of 500,000 bales of American cotton to Germany in exchange for fertilizers and knitted goods from that country has not fructified, interest is being taken in U.S.A. regarding a similar arrangement between Egypt and Germany. We learn from a United States source that consideration is being given to a new barter deal between Germany and Egypt whereby Germany will receive Egyptian cotton in exchange for German products, chiefly nitrogen fertilizer, medicinals, and possibly agricultural machinery.

It is stated that Egypt is anxious to consummate the agreement as a means of increasing sales of cotton to Germany and because German synthetic nitrogen fertilizer is suited to Egyptian soil requirements.

The arrangement is also in keeping with Germany's present foreign trade policy of extending barter trade relations, now being aggressively fostered, and which are necessitated by the scarcity of foreign exchange and the need for indispensable foreign raw materials, such as cotton.

An unfavourable aspect of the projected barter deal with Egypt, the report points out, is the fact that Egyptian cotton is high in price compared with American cotton, and is, therefore, suitable for only a restricted part of the German textile industry.

The proposed cotton-fertilizer transaction, according to the report, is similar to one consummated between Egypt and Germany two years ago, under the terms of which Egypt took 50,000 metric tons of German calcium nitrate, valued at approximately 5,000,000 marks, and Germany was supplied with Egyptian cotton of an equal value. The German Nitrogen Syndicate supplied the fertilizer, and a syndicate of Bremen importers received the cotton. Financial details of the transaction were handled by the Dresdener Bank.

EGYPTIAN COTTON CONSUMED IN THE U.S.A.

[Equivalent 500-lb. bales]

Month	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34*	1934-35
August	17,629	22,469	18,769	20,285	7,673	5,667	6,398	11,283	7,826
September	22,884	19,795	16,297	17,484	7,915	7,096	6,323	9,165	4,514
October	20,812	19,413	20,087	20,107	9,429	4,598	7,858	9,568	10,362
November	16,383	20,507	17,858	18,283	8,980	6,809	7,908	9,020	—
December	16,876	18,664	18,003	17,976	10,134	6,509	6,645	6,160	—
January	17,297	20,199	22,325	18,646	7,782	6,611	5,998	10,211	—
February	17,042	20,435	19,546	17,036	8,377	6,665	6,253	9,280	—
March	21,773	17,112	20,515	15,826	8,774	8,268	7,212	10,705	—
April	19,527	16,466	20,159	18,156	9,763	6,427	6,217	8,553	—
May	22,146	14,943	20,484	15,947	8,630	9,908	9,319	7,395	—
June	28,045	13,951	18,046	13,278	8,898	6,028	9,040	6,284	—
July	21,354	18,430	20,843	11,761	7,740	6,085	9,634	6,031	—
Total	239,768	217,584	232,392	203,765	104,095	79,464	88,805	103,660	—

*Subject to slight revisions.

EXPORTS OF COTTON CLASSIFIED BY VARIETIES AND COUNTRIES OF DESTINATION

For the twelve months ending August 1934 and 1933

Published by the Statistical Department, Ministry of Finance

Countries of Destination	Unit	Sakellariadis		A. Shmound		Tsilion		Meaad		Gira 7		Other Kind		Total	
		1934	1933	1934	1933	1934	1933	1934	1933	1934	1933	1934	1933		
United Kingdom	127,161	128,106	127,210	140,280	1,286	9,083	8,481	6,991	15,267	7,745	10,530	14,984	415,913	390,082
British India	4,898	6,766	7,064	272	659	712	5,074	7,161	4,812	1,717	9,238	11,184	30,083	17,860
Austria	1,890	1,890	7,509	3,763	—	—	—	—	814	52	227	212	9,410	5,665
Belgium	388	1,810	1,963	1,763	—	—	—	—	101	191	51	212	5,778	4,035
China	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Czechoslovakia	1,340	1,550	12,310	3,900	750	1,125	200	210	100	600	150	2,400	3,683	9,773
France	6,010	4,525	18,055	12,681	230	61	4,137	2,571	282	284	2,431	1,371	13,417	131,440
Greece	31,663	29,708	89,981	1,380	1,684	5,763	6,408	6,980	4,262	1,952	5,740	6,135	147,062	108,000
Germany	12,100	8,690	111,870	77,153	1,081	14,370	1,060	1,090	4,263	1,592	3,784	6,135	147,062	108,000
Holland	114	57	1,771	2,914	2,026	1,800	—	—	—	—	160	—	3,473	2,430
Hungary	806	556	4,085	1,502	83	—	—	—	—	—	247	—	6,075	2,117
Japan	20,877	14,019	60,411	47,846	625	700	341	1,178	2,205	745	1,328	1,604	94,817	65,161
Poland	11,860	13,710	57,642	28,857	—	—	200	4,754	2,220	1,171	3,685	3,245	82,109	33,887
Portugal	2,712	3,048	16,095	6,876	300	145	4,265	2,810	105	135	570	1,735	2,984	2,984
U.S.S.R.	839	464	780	810	5	—	20	1,086	1,312	—	268	—	2,908	—
Spain	8,365	3,355	30,058	28,135	1,200	1,801	695	270	586	13	1,400	1,044	49,434	37,608
Sweden	4,985	7,782	1,705	782	20	—	—	—	20	—	—	—	4,987	5,384
United States of America	5,006	20,605	15,798	630	803	8,906	6,024	3,312	576	1,852	1,160	1,160	40,201	30,276
Other countries	27,559	29,791	13,706	2,378	510	380	1,404	450	845	74	1,626	99	40,863	41,432
	..	401	223	5,765	5,378	510	825	450	450	585	650	99	112	7,420	5,635
Total	202,786	255,314	786,646	474,846	25,603	33,313	51,497	40,631	43,282	17,109	46,223	40,702	1,214,980	862,005

* Figures of Canada for previous years were included in other countries.

PROPORTION OF THE COTTON VARIETIES SOWN DURING THE YEARS 1912 TO 1934

Published by the Ministry of Finance, Egypt

[illegible]

GOVERNMENT GINNING REPORTS.

The following constitutes the ginning report published by the Ministry of Agriculture, and relates to the cotton ginned up to November 30, 1934:—

Variety	Total Quantity Ginned Cantars	Distribution according to grade and respective percentage			
		Middling to Good-Fair (not incl.) Cantars	Good-Fair (incl.) to Fully- Good-Fair Cantars	Better than Fully-Good- Fair to Good Cantars	Better than Good Cantars
Sakel	403,170	13,076	55,484	161,870	172, 40
	=100%	=3%	=14%	=40%	=43%
Maarad	100,893	1,391	9,667	52,956	36,879
	=100%	=1%	=10%	=52%	=37%
Sakha 4	18,142	11	531	5,788	11,812
	=100%	—	=3%	=32%	=65%
Giza 7	442,054	10,719	74,676	207,174	149,485
	=100%	=2%	=17%	=47%	=34%
Casulli	7,808	239	1,160	5,368	1,041
	=100%	=3%	=15%	=69%	=13%
Fouadi	59,727	858	6,643	27,810	24,416
	=100%	=1%	=11%	=47%	=41%
Nahda	16,020	174	871	9,890	5,085
	=100%	=1%	=6%	=61%	=32%
Giza 3	27,448	509	2,733	11,193	13,013
	=100%	=2%	=10%	=41%	=47%
Ashmouni-Zagora	3,011,007	123,432	583,670	1,650,049	653,856
	=100%	=4%	=19%	=55%	=22%
Pilion	10,630	—	1,119	6,779	2,732
	=100%	—	=10%	=64%	=26%
Other varieties ..	32,673				
	4,129,572				
Scarto	81,341				
Total	4,210,913				

The Egyptian Ministry of Agriculture has published this week the following report giving the detailed figures for cotton ginned up to December 31, 1934, viz:—

	1934 Crs.	1933 Crs.	1932 Crs.
Sakellaridis	569,110	687,608	766,472
Other long staple varieties of 1½ in. and more	715,464	676,037	366,199
Medium staple varieties (1½ in.)	137,976	255,063	255,205
Medium staple varieties (1½ in.)	3,536,333	3,899,142	1,930,943
Scarto	100,831	110,175	77,170
Total	5,059,714	5,628,025	3,395,989

On the basis of these figures, the average outturn per acre of the present crop for all-India works out at 81 lbs., which is practically the same as at this time last year.

A statement showing the present estimates of area and yield according to the recognised trade descriptions of cotton, as compared with those of the preceding year, is given below:—

Descriptions of Cotton	Acres (thousands)		Bales of 400 lbs. each (thousands)	
	1934-35	1933-34	1934-35	1933-34
Oomras—				
Khandesh	1,089	1,075	236	*266
Central India	1,742	*1,685	197	225
Barsi and Nagar	2,046	2,313	292	385
Hyderabad-Gaorani	832	959	124	145
Berar	2,907	2,896	583	551
Central Provinces	1,344	1,251	257	225
Total	9,960	*10,179	1,689	*1,797
Dholleras	2,587	2,168	525	462
Bengal-Sind—				
United Provinces	722	*811	198	*207
Rajputana	527	530	74	80
Sind-Punjab	2,556	*2,776	716	*732
Others	46	48	10	10
Total	3,851	*4,165	998	*1,029
American—				
Punjab	832	804	268	264
Sind	181	†	74	†
Total	1,013	804	342	264
Broach	1,318	1,257	280	314
Coompta-Dharwars	1,066	1,328	148	*196
Westerns and Northerns	1,247	1,589	146	*197
Cocanadas	167	145	28	24
Tinnevellies	330	368	85	95
Salems	133	158	25	29
Cambodias	371	277	158	*124
Comillas, Burmas and other sorts	557	515	131	*127
Grand total	22,600	*22,953	4,555	*4,658

* Revised.

† Included under "Sind-Punjab," separate figure not being available.

Technological Reports on Standard Indian Cottons, 1934.

The term "Standard Indian Cotton" is applied to certain improved varieties of cotton which are steadily replacing the older varieties in different parts of India and which, at present, cover some 15 per cent. of the total area under cotton cultivation. It is the practice at the Technological Laboratory to subject the standard cottons of each season to a very thorough test for their fibre-properties and yarn characteristics. The Technological Reports included in the latest bulletin contain the detailed results of these tests on standard cottons of eleven seasons, viz., 1923-34, together with the agricultural details, the grader's valuation reports, and the spinning master's report on each cotton, while the objects and salient features of the various tests are described in the introduction. Complete information as regards the treatment, waste percentages, yarn-breakages and the physical conditions prevailing in the laboratory is also given in the reports. The general plan followed in each report is the same as in the past years with the following difference: The fibre tests for the determination of fibre-rigidity, ribbon-width and number of convolutions per inch have been discontinued, for reasons explained in the introduction, from the 1932-33 season. Consequently, values of these fibre-properties are given only up to the 1931-32 season. On the other hand, the determination of the percentages of mature and immature fibres in each of the standard cottons of this season has been carried out and the results are included in this bulletin for the first time. Furthermore, the methods and technique of fibre, yarn and spinning tests employed at the Technological Laboratory, instead of being described each year in the introduction, have been dealt with once for all in a separate Technological Bulletin, Series A, No. 25.

It should be noted that these agricultural standards have nothing whatever to do with the trade standards maintained by the East India Cotton Association for purposes of appeal and arbitration. The following list gives the distribution of these cottons according to Provinces, the season in which they were first tested at the Technological Laboratory and the area under their cultivation for the latest season available in each case. Ordinarily, the list of these agricultural standards remains unchanged, but, occasionally, when a cotton has definitely proved unfit for the cultivators' fields or has been superseded by a better variety, it is omitted from the list, and a new cotton is added to it if, as a

result of satisfactory trials, it is found suitable for general cultivation.

LIST

Cotton	Season in which the cotton was first tested at the Technological Laboratory			Area under cultivation (Acres)
Bombay cottons—				
1. Jayawant Kumpta)	..	.	1926-27	1,38,140 (1933-34)
2. Gadag 1 (Dhavar-American)	1923-24	69,420 (1933-34)
3. Surat 1027 A L F	1923-24	2,34,700 (1933-34)
4. Wagad 5 Dhollera)	1925-26	800 (1933-34)
Punjab cottons—				
5. Punjab-American 4F	1924-25	7,13,500 (1933-34)
6. Punjab-American 289F	1924-25	31,140 (1933-34)
7. Mollisoni (Bengals)	1925-26	7,27,560 (1933-34)
United Provinces cottons—				
8. Aligarh A 19 (Bengals)	1924-25	49,430 (1932-33)
9. C 402 (U P)	1931-32	3,460 (1933-34)
Central Provinces and Berar Cotton—				
10. (a) Verum 262 (Nagpur)	1926-27	89,560 (1933-34)
(b) " (Akola)	1927-28	
Hyderabad cotton—				
11. Umri Bani	1924-25	9,25,560 (1933-34)
Madras cottons—				
12. Cambodia Co. 2 (Cambodia 440)	1924-25	47,000 (1933-34)
13. Nandyal 14 (Northern)	1923-24	3,300 (1933-34)
14. Hagari 1 (Western)	1924-25	2,00,300 (1933-34)
15. Karunganni C7	1924-25	17,000 (1933-34)

This report may be obtained from the Indian Central Cotton Committee. Price: 1 rupee 8 annas.

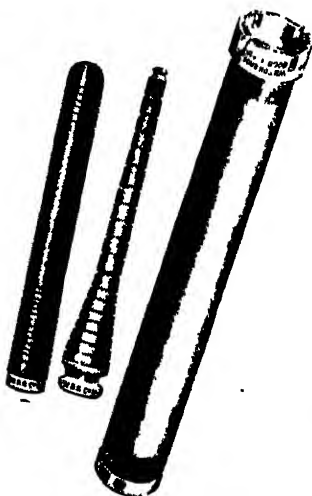


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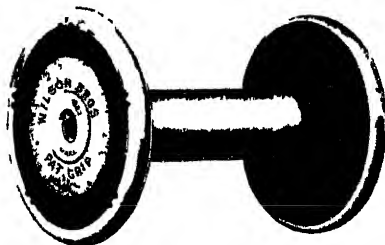
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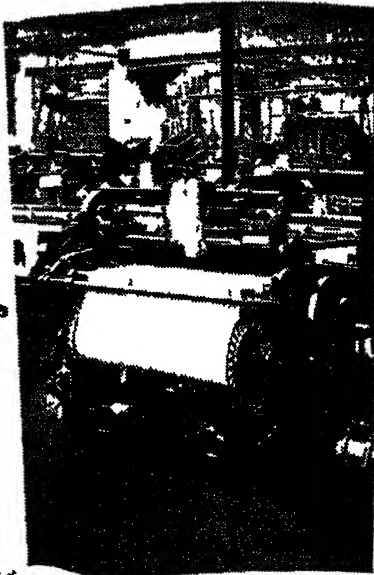
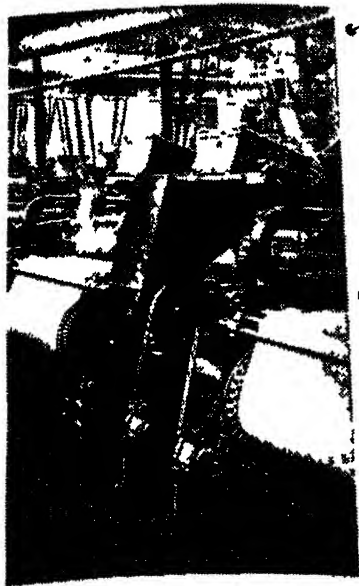
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J/N 84

USE COSMOS LAMPS—AGLOW WITH LIFE



The Multiweave Card-Saving Damask Jacquard.

MR. P. B. FIELDING, a director of Devoge & Co. Ltd., Manchester, has recently taken out a patent (No. 415,490) which gives a new method of tying up a jacquard whereby multiweave effects can be produced in sufficient variety on furnishing fabrics of the damask type as to constitute a new branch of manufacture. The designs on the fabrics in question are required to be large, hence it is of the utmost significance that compared with a full harness, Mr. Fielding's invention effects a saving in cards of 75 per cent. or 87.5 per cent., and a corresponding saving in the time occupied in preparing the point paper design for the card cutter.

Both the pressure harness and the Bessbrook jacquard are notable for the saving they effect in the number of cards required to weave a given design, the saving being in the proportion of the number of warp threads operated by a single needle and the number of picks worked by the same pattern card. In both cases, however, only two weaves are obtainable at one time, one for ground and one for figure, such as a warp satin figure and weft satin ground, or vice versa. The very fact of mechanically imposing a weave in the ground and another in the figure, necessitates absolutely flat treatment of the figure, and the latter is solely dependent for prominence on the contrast it makes with the ground weave.

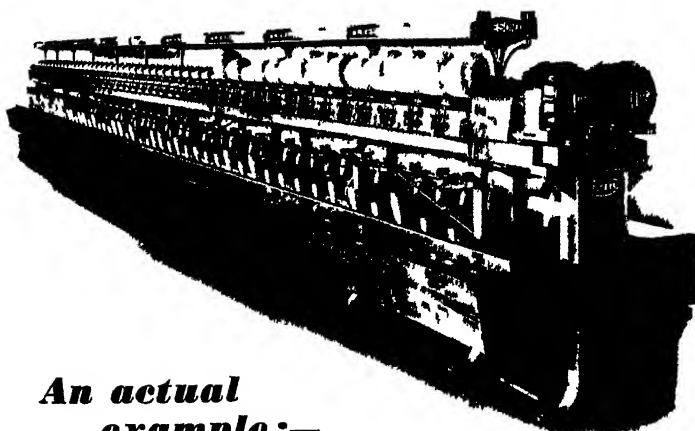
There is, however, a regular demand for damasks and other fabrics in the furnishing class where the "flat" treatment obtained by using either the pressure harness or the Bessbrook jacquard is not sufficient for the purpose, and yet the price at which the fabrics can be sold does not permit the use of full harness methods on

invention opens up undreamed of possibilities, as will be realized from the fact that with one warp and two wefts nine different weave and colour effects can be obtained with a 75 per cent. saving in cards, and time in design preparation. With only one weft, weaving two picks to a card, the saving is 87.5 per cent. in cards as compared with the full harness method, and four weaves are obtainable.

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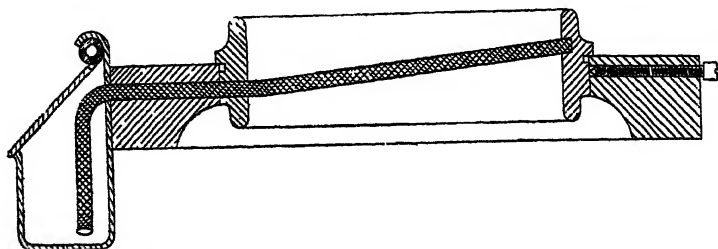
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draws off the oil by suction so that the flow starts and stops automatically
with the frame.

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In the "Multiweave" machine the binding points of adjoining weaves are on adjacent ends and picks throughout as illustrated in Fig. 2, and which is considered to be the next best binding to the perfect lock.

In bordered or centred harness ties, the weaves do not reverse, but run one way only from selvedge to selvedge. The outline of the figure will be stepped in 8's warp way or 2's or multiples of 2's weft way.

The next important modification is the manner in which the needles and hooks are arranged and the way the hooks are tied up to the harness. This is very ingenious and reflects great credit on the inventor. A full explanation of the manner in which the different weaves are produced might easily become tedious, and can only be avoided if a full grasp of the scope of the invention is obtained from inspection of the diagram Fig. 1, which shows a side elevation of the machine and harness arranged in accordance with the invention.

The machine is double lift, single cylinder, and has two griffes, X and Z, but, instead of alternate knives going up on alternate lifts, knives 1, 4, 6, 7 go up with griffe Z and knives 2, 3, 5, 8 go up with griffe X. The machine has eight rows of needles numbered 1 to 8, and each needle controls four hooks. The hooks are grouped in series of eight, numbered 1 to 8. Needle 1 controls hooks 1, 3, 6, 8 in the first series, while the other "odd" needles 3, 5, 7 also control hooks 1, 3, 6, 8 in succeeding series. Needle 2 controls hooks 2, 4, 5, 7 in the first series, and the other even needles 4, 6, 8 control the hooks 2, 4, 5, 7 in the following series.

The cords connecting the hooks to the harness are tied up in a novel order. The hooks 1, 4, 5, 8 of each series are tied to two harness necks, while the hooks 2, 3, 6, 7 are tied to four harness necks each, including the necks connected to the hooks 1, 4, 5, 8. Spare rows of needles for actuating the shaft hooks are arranged at each end of the machine. Each shaft needle controls four shaft hooks, the shafts are distributed on eight needles, and the hooks are arranged in series of eight. The shafts are arranged in the loops of the harness necks, so that when a shaft is raised the corresponding harness necks are also raised. The shaft needles may be operated in the desired order by plugging the card cylinder, or, in the case of two, three, or four shuttle fabrics the card may be of extra length to overlap and control the needles.

It is contemplated that normally the invention will be used for weaving with two picks to a card, and for this purpose the cylinder turning catch is extended at its inner end, and a thin adjustable rod passes downwards through a hole in a filbo fastened to the top griffe spindle. When this griffe is lifted the thin rod passes through the hole in the lifting filbo without interference, but when the griffe is descending it causes the thin rod to descend, thus causing the outer end of the cylinder turning catch to miss the lantern and so prevent the cylinder turning for that pick. It is a device for ensuring that the card remains for two picks, and the cylinder must turn on the correct one. In fabrics where only one pick per card is required the thin rod is removed and the cylinder turns every pick.

Referring now to Fig. 2, this shows four weaves, viz., 3-and-1 warp twill, 8-shaft weft satin, 8-shaft warp satin, and warp float. For simplicity it may be assumed that these weaves are to be produced by the first eight hooks controlled by needles 1 and 2, one card serving for two picks.

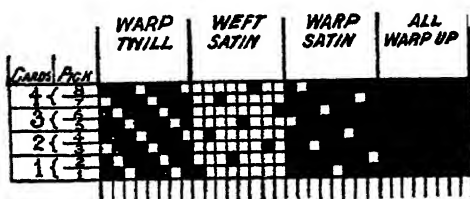


FIG. 2

EIGHT-SHAFT WEFT SATIN.

If both holes are left uncut the figuring hooks will not be lifted, but as the shafts are lifted in 8-shaft satin order No. 1 end will be lifted on the first pick by the griffe Z. The shaft needle which controls the first shaft also controls the fourth shaft, and on the second pick the fourth end will be lifted by the griffe X. On the succeeding cards shafts 7 and 2, 5, and 8, 3, and 6, will lift the corresponding ends, to complete the 8-shaft satin weave on four cards.

THREE-AND-ONE WARP TWILL.

To produce this weave a hole is cut against needle 1. Griffe Z will rise and lift hooks 1 and 6, lifting ends 1, 2, 4, 5, 6 and 8. With the same card griffe X will rise for the second pick and lift hooks 3 and 8, lifting ends 1, 3, 4, 5, 7 and 8. For the next card a hole is cut for needle 2, griffe Z rises and hooks 4 and 7 go up lifting ends 2, 3, 4, 6, 7 and 8. On the next pick from the same card the griffe X will lift hooks 2 and 5, and ends 1, 2, 3, 5, 6 and 7.

It should be noted that the 8-end weft satin does not interfere with the twill weave as the ends in the satin weave are lifted in the same positions as in the twill weave.

EIGHT-SHAFT WARP SATIN.

This weave is obtained by the superimposition of the 8-shaft weft satin weave on the 3-and-1 warp twill, but in this instance the first pick of the twill is like the third pick in Fig. 2. Thus, in the manner already described the figuring hooks 4 and 7 lift ends 2, 3, 4, 6, 7, 8 on the first pick, and on the same pick the shaft hook lifts No. 1 end, hence seven threads are up and one down. Similarly on following picks in addition to the six threads lifted on each pick by the 3-and-1 warp twill working, the shafts lift ends 4, 7, 2, 5, 8, 3 and 6 in that order to produce a perfect 8-shaft warp satin.

ALL WARP UP.

This is essentially for shading purposes and is produced by cutting holes in the cards to lift all ends. Binder dots are added as required to avoid too long floats.

PREPARING THE DESIGN.

Preparation of the point paper design for this type of fabric is very simple. If blank paper is allowed to represent 8-shaft weft satin, the twill be painted solid in one colour and the warp satin in another. The outline of the figure requires to be stepped in two's or multiples of two, corresponding to eight warp threads in the fabric. Weft way the stepping of the outline may be in one's as one horizontal space serves for one card and two picks. In card cutting, odd numbered cards have odd numbered needles cut on one colour, and even numbered needles on the other. On even numbered cards the cutting on each colour is reversed. For blanks on the paper nothing is cut.

EFFECTS WITH TWO WEFTS.

While only four weave effects are obtainable with one shuttle, with two wefts nine distinctly different weave effects can be produced. For instance, assuming a blue warp is used to weave 8-shaft warp satin ground, interweaving with two colours of weft, say brown and fawn inserted pick and pick, the following effects can be produced with one pick per card :—

- (1) 8-shaft weft satin with brown weft,
- (2) " " fawn weft,
- (3) " " brown and fawn wefts,
- (4) 3-and-1 warp twill with brown weft,
- (5) " " fawn weft,
- (6) " " brown and fawn wefts,
- (7) shade with brown weft,
- (8) shade with fawn weft,
- (9) 8-shaft blue warp satin ground.

The cloth produced is reversible, but there is a limited optional choice of the effects which may be produced on the back of the cloth. For instance, No. 1 effect on the face may have either No. 2 or No. 5 effects on the back of the cloth :—

No. 2 effect on the face may have No. 1 or No. 4 behind.

No. 4 " " " No. 2 or No. 5 behind.

No. 5 " " " No. 1 or No. 4 behind.

Behind No. 3 effect is 8-shaft warp satin. Behind No. 6 effects is 3-and-1 warp twill.

MORE ELABORATE STYLES.

With three shuttles, pick and pick and pick, very many more effects of colour combined with these weaves are obtainable, and as there is one card per pick in these pick and pick fabrics, and one needle takes the place of four in full brocade harness, the saving is 75 per cent. in needles and designing and card cutting.

DOUBLE PLAINS.

The machine knife partitions are so arranged that those knives controlling hooks 2 and 3 in each series of eight on one griffe, and the knives controlling hooks 6 and 7 in each series of eight on the other griffe, can be removed without interfering with the remaining knives controlling hooks 1, 4, 5, and 8 in each series of eight. Then

by redrawing-in the warp 2, 4, 6, 8, 5, 7, 1, 3 a double equal of plain cloth with the addition of 3-and-1 warp twill and 3-and-1 weft twill is obtainable. As one card serves for one pick the saving is again 75 per cent. in designing and card cutting.

With a two colour warp end-and-end and two colours of weft, pick and pick, very beautiful jacquard effects can be produced, the outline of the figure being stepped in four warp way.

The full possibilities of this Multiweave card-saving jacquard are not yet known, but it will be appreciated that through being able to lift all the warp in multiples of four threads, any colour of weft can be thrown to the face of the cloth and with the addition of a binder warp large designs could be obtained with one-quarter the usual needles and cards.

(Textile Weekly.)

The Spinning of Staple Fibre.

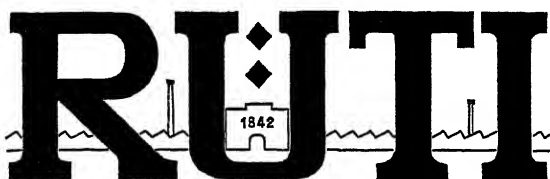
A MOST interesting lecture on the "Production and Processing of Viscose Staple Fibre" was given recently before members of the Textile Institute by Mr. Harold Ashton, manager of Courtaulds' Arrow Mill, Rochdale.

After much experimentation, Courtaulds have concentrated on a fibre of $1\frac{1}{8}$ -in. staple, which can be spun in any Lancashire Egyptian cotton spinning mill, they claim, without the alteration of any machinery. The fibre can be cut and spun in any requisite length from $1\frac{1}{2}$ -in. staple. The longer the individual filaments the stronger, within limits, of course, is the yarn. Courtaulds are convinced that for cotton spinning machinery $1\frac{1}{8}$ -in. staple will give a perfectly satisfactory material and they are standardising this length. It is equal to a carded Sakel and can be spun in the Arrow Mill in any counts from 10's to 70's. Up to the time that Sakel cotton is brought to the combed sliver process and $1\frac{1}{8}$ -in. staple fibre yarn to the same stage, the Sakel at to-day's prices would cost approximately 12-12½d., and when the Excise Duty of 3d. per lb. is removed, Fibro yarn will certainly cost no more. In the meantime, for the export trade, with the drawback of 4½d. per lb., it actually costs less, and the product will both look and handle better in the cloth than Sakel cotton. It must not be overlooked that while cotton is a natural product and so subject to the vagaries of nature and consequent irregularity of staple, Fibro is a synthetic product under the control of the chemist and engineer, which control enables a 100 per cent. accuracy of staple to be guaranteed in the raw material.

In the power room there is a triple-expansion engine of 1,700 i.h.p. capable of developing a load of 2,000 h.p.

The blowing room contains opening and cleaning machinery designed for the double purpose. As Fibro requires no cleaning, only the opening parts of the machinery have been scrapped or modified. The original machines were designed to reject anything from 4-9 per cent. cotton waste according to quality. The waste up to the carded sliver in cotton is about 10 per cent., but in Fibro it is only 2 per cent., the major part of which can be recovered as

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the machine rejects on principle whether the reject is waste or not. It is possible to make a satisfactory lap without ejecting any of the staple as waste. The material is fed into the hopper-feeder, passed through a Buckley cylinder and bladed beater to make an opener lap, and it should be noted that the machine is run at the same speed as for cotton. On the finisher scutcher the lap is again made suitable for carding, the speed once more being the same as for cotton. The cavities and spaces, which were formerly used for extracting waste and emptied twice a day, are now clean and bare.

In the card room, the laps from the blowing room are taken to the carding machines in the same way as cotton laps. Formerly it was found that there was a difficulty in regard to lap "licking," but this has now been overcome by introducing a "curl" into the material. Since 1929 every filament has curl, and the material thus obtains the cohesion which the natural twist gives to cotton.

In the case of cotton in the card room, the dust and fly were removed from the machine three times a week. This is never done in Fibro. The normal taker-in grid and mote knives are replaced by a plain blank sheet to prevent the ejection of any staple as taker-in waste or fly.

From this point onwards everything is the same as in standard cotton spinning. The drawing frames are running just as in cotton processing, and the effects of drawing can be plainly seen in the increased lustre on the material. The slubbing frame is working under standard cotton conditions as also the intermediate frame. There are no modifications of any kind, and the same applies to the roving frame, the only difference being that all bobbins in these three frames are covered with impregnated paper sleeves in order to prevent contamination of the material by oil.

The mule frames run just as in cotton, but if one looks across the extended frames in the room, one is struck by the far greater regularity of the Fibro thread as compared with a cotton yarn. It requires a good-class Sakel cotton to equal Fibro for dry strength. In Lea testing a count-strength product of 2,100 for 30's or a strength of 70 per lea, could be maintained without difficulty.

There has recently been placed upon the market in the United States a novelty yarn, consisting of 75 per cent. rayon staple fibre and 25 per cent. rabbit hair. The yarn is spun on the cotton system and is intended for knitting, the effect, it is stated, being rather like that of a lightweight wool. (*Textile Recorder*.)

The following extracts on the spinning of staple fibre have been taken from a recent issue of the *Melliand Textilberichte* (German edition):—

ARTIFICIAL SPINNING FIBRES AND THEIR IMPORTANCE FOR THE TEXTILE INDUSTRY.

H. O. Koecke, Managing Director (*Melliand Textilberichte*, Heidelberg, German edition, 1935, 1, 6.) Germany is compelled to import the greater part of the raw materials required by the textile industry, but economic conditions at present make it compulsory to devote the greatest attention to domestic raw materials. Rayon and staple fibre occupy the foreground of interest at present. Artificial spinning fibres were first manufactured in large quantities in Germany during the War, but they were at that time very

inferior in quality, because there was no time for thoroughgoing research. After the War, however, staple fibre and rayon were developed and became a very important and excellent textile raw material. The author then deals with the process of manufacture in detail and shows how the new fibres can be spun in conjunction with cotton, worsted, wool, chafon, or flax. He finally compares prices and discusses the advantages of the creation of an artificial yarn industry.

THE MOST FAVOURABLE FORM OF STAPLE FIBRES.

A. Pakschwer, Dip. Eng., and M. Bunin, Eng. (Melliand Textilberichte, Heidelberg, German edition, 1935, 7, 15). Staple fibre differs from the natural fibres used for spinning in that it can be produced in any desired form and thickness. Comparatively little research has taken place into the most advantageous form of staple fibre. The authors proceed from purely theoretical considerations and regard staple fibre from the point of view of the mechanics of pliable bodies, from the point of view of the theory of the elasticity and deformation of textile fibres, and the theory of the construction of textile fibres. They come to the conclusion, on the basis of the derived equations, that staple fibre must be built up like a body with the same bending stress, that is to say, it must be thick in the middle and thinner at both ends. That would mean that recourse must be had under certain circumstances to an intermittent spinning process. In the case of fibres of the same diameter the curl must chiefly be present at the ends. It is not an easy matter to solve the problem of the most favourable curl in the case of bodies with constant extension resistance and constant bending resistance, but it is proposed here also to have the curl chiefly at the ends. The authors finally deal with the theoretically best thread form, that is to say, the distribution of the fibre in the yarn.

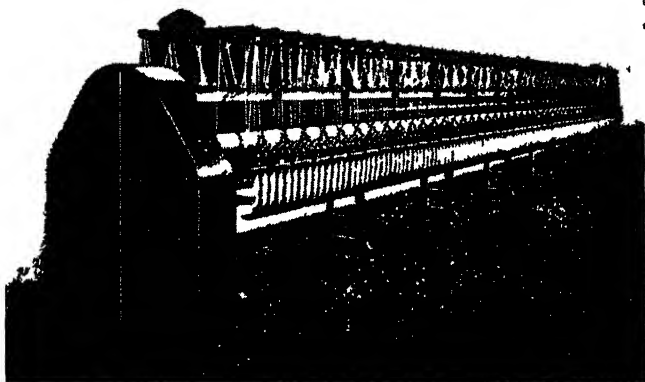
THE ACETATE SPINNING FIBRE.

Dr. F. Nevely (Melliand Textilberichte, Heidelberg, German edition, 1935, 7, 17). Just as acetate rayon differs noticeably from other types of rayon, so also does acetate spinning fibre differ from other fibres. It is hydrophobic in character and is difficult to wet with water or with aqueous solutions, which is the reason for its superior strength in a wet state, amounting to some 75 per cent. of its dry strength. Its water-repelling action also makes it easier to wash. It has also high heating properties. The specific gravity of acetate spinning fibre is 1.3, so that wool and acetate spinning fibre possess the lowest specific gravity of all textile fibres. Acetate spinning fibre can be advantageously mixed with wool.

YARNS FROM FIBRE-MERCERISED COTTON.

A process has been worked out by Mr. J. F. Copley, of Copley, Marshall & Co. Ltd., Newmill, Huddersfield, whereby fibres are successfully mercerised and lusted. These fibres are particularly suitable for spinning into hosiery and weft yarns. They are of different character to the usual mercerised yarns, resembling the

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spun rayonstaple fibre yarns. They can be spun into singles of appropriate twist for the best lustre, yielding soft and silky lustrous yarns. They are not so liable to show dyeing effects due to uneven mercerisation. The fibres can also, of course, be used to produce a mixed fibre yarn by drawing or carding along with other fibres of wool or rayon, and for fancy yarns such as knop and slub yarns can be made.

The process of mercerising is carried out on slivers in which the cotton fibres are lying more or less parallel, that is, draw-frame sliver. The sliver is twisted and then two slivers are twisted together in the opposite direction to form a very thick two-fold yarn strong enough to stand the tension imposed by mercerising, and of an amount required to give the best lustre to the fibres. Owing to the thickness of the sliver the twist is low, say $1\frac{1}{4}$ turns per inch with a sliver of $\frac{1}{4}$ oz. per yard (0.08 cotton hank), and the two-fold would be 0.6 to 0.75 turns per inch. The folding twist takes out some of the singles twist and the mercerised two-fold sliver can be fed to the card without requiring to untwist it. If required, however, the doubled sliver can be untwisted and the slivers spun in the usual way.

Meynell's High-Draft System.

READERS will no doubt recollect that in our last BULLETIN the Casablancas exhibit at the recent Textile Machinery Exhibition in Manchester was described.

As more and more spinners are turning their attention to High Draft Spinning, we are publishing below, as likely to be of interest, some details of Meynell's High-Draft System as examples of work which can be turned out when the system is applied to a 25-years-old three-line ring frame. The ring frame was constructed in the year 1909; it had rollers 1 in., $\frac{7}{8}$ in., and 1 in., which have been changed to $\frac{7}{8}$ in., $1\frac{1}{8}$ in., 1 in. On these diameters Indian or American staple is spun without change of even the settings. This is possible on account of using the peculiarly constructed washer top roller in the middle line, which effectively deals with any hank on account of its resilient action on the "roving" passed. The creel had been raised to accommodate the larger intermediate package. The traverse had been accelerated to give the necessary "piano action" to the washers of the top roller. The wheel gearing had been altered to give the higher draft constant. The settings front to middle had been closed to within $\frac{1}{8}$ in. No other alteration necessary. The counts and cotton being spun were:—

Texas, with 20 per cent. strips ($\frac{7}{8}$ in.).

24's from 1.14 inter. hank.

21 draft. Turns, 18. Speed, 9,000.

Ring, $1\frac{1}{4}$ in. Lift, 5 ins. Traveller, 3.

Strength, single lea, 75 lbs.

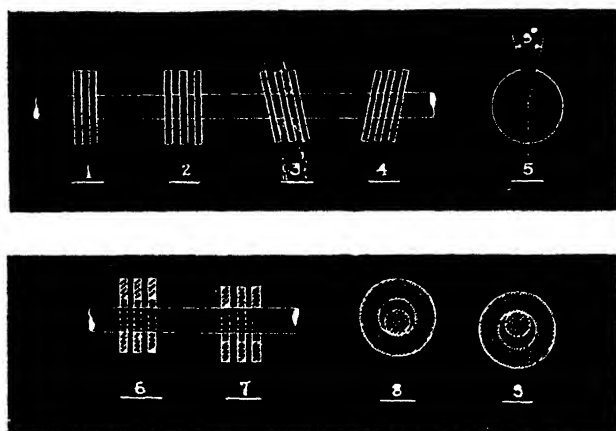
The yarn was level and spinning good.

We think it will be of interest if a description of the washer

roller is given again, as we have had occasion to notice that this system is making considerable progress both here and abroad, and its simplicity and low cost of conversion merits investigation

In the first place, the washer roller is a composite roller made on a lathe. The spindle of the roller is less in diameter than the bore of the washers. The washers are very thin and resemble wafers. The washers, by means of the accelerated traverse motion, receive a kind of "piano action," and this motion automatically releases the twisted "roving," thus facilitating the attenuation.

Fig 1, with references 1 to 9, will explain the automatic action of the loose-washer principle



SKETCH (enlarged)

- 1 —Washers at rest (closed)
- 2 —Washers at right angles, open and allowing fibres to pass through
- 3 and 4 —Washers moving right and left—by this action the rovings are gently held to facilitate long drafting
- 5 —Shows angle at which washers work and communicate "braking" action to rovings Degree of angle is governed by size and quantity of washers
- 6 —Washers open and move upwards with the pressure of the roving
- 7 —Washers sink as roving passes through
- 8 and 9 —Washers seen from the side

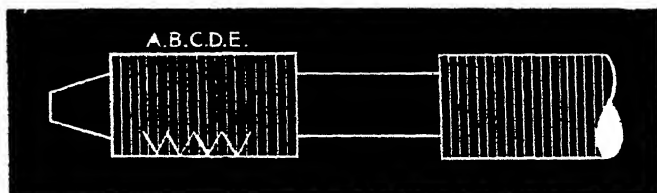


Fig. 2 illustrates the accelerated motion which traverses the hank, causing the washers to open and close.

The zig-zag draw through the washer roller exercises a combing or gentle hold on the hairs of the cotton, especially the longer ones, and thus prevents their rupture, whereas the close setting gives great efficiency in the control of the shorter staple.

The washer roller is not a "light weight," so that efficient drafting is given even with a close-up setting. This is due to the unorthodox construction, as the hairs cannot escape a "continuous hold" by the several wafel-like washers which automatically take control during drafting.

It might be of advantage to readers to apply to the makers of the washer roller for their pamphlet, as the same is fully described therein, and we feel that nothing would be lost by studying this simple system.

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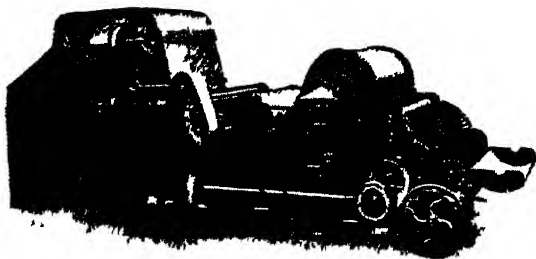
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Wages in the Cotton Industry.

The International Labour Office recently published tabulations of actual wages paid in the various textile mills in most of the countries concerned. We extract the following figures relating to the cotton industry from the report, which was published in the September, 1934, issue of the *International Labour Review* (Price 2/6 net).

GERMANY

A. ENQUIRY OF THE STATISTISCHES REICHSAMT, SEPTEMBER, 1933

Cotton (spinning and weaving)

Occupation and sex (or district)	No. of workers covered	Rate per hour	Earnings				Actual hours of work per week	
			Per hour, gross*		Per week	Total†	Over- time	
			Excluding	Including				
			Supplements†	Gross*‡	Net‡			
		RPf.	RPf.	RM.	RM.			
Spinners, men (a)	1,296	62.8	69.7	71.3	32.15	28.32	45.09 0.81	
" women (a)	5,403	45.7	50.2	50.7	22.98	20.35	45.29 0.96	
Weavers, m. (a)	7,200	59.9	66.2	67.5	29.08	25.54	43.01 0.32	
" w. (a)	5,082	55.0	57.1	57.6	25.69	22.58	44.58 0.61	
Helpers, m. (b)	2,930	51.5	54.0	55.1	26.49	23.48	48.11 2.28	
" w. (b)	2,257	37.8	39.6	40.0	18.76	16.68	46.92 1.57	
Total, m. and w.	24,168	52.6	56.7	57.6	25.87	22.83	44.95 0.90	
Spinners, w., in :								
S. Bavaria	1,335	48.9	53.4	53.9	23.88	21.05	44.27 0.85	
N. Bavaria	1,092	44.8	49.7	50.3	22.64	20.23	44.96 1.40	
Munsterland	882	45.7	54.3	54.8	25.69	22.53	46.87 0.59	
Weavers, m., in :								
S. Bavaria	575	68.9	69.6	70.6	32.47	27.99	46.01 1.08	
N. Bavaria	557	66.0	67.5	68.2	30.09	26.62	44.16 0.24	
Munsterland	2,556	57.4	69.2	71.6	31.29	27.34	43.71 0.31	

(a) = Piece workers. (b) = Time workers.

* Including sums deducted for taxes and workers' social insurance contributions.

† Payments for overtime and shift work, and family allowances.

‡ In addition to these data, corrected averages have been computed to allow for loss of earnings or of time as a result of individual absences for sickness or holidays, dismissals, and new engagements during the period covered by the enquiry. These averages are as follows, for all workers in each branch : cotton : earnings, RM. 26.24 ; hours, 45.58 ; wool (spinning) : earnings, RM. 26.13 ; hours, 46.10 ; wool (weaving) : earnings, RM. 28.15 ; hours, 40.50.

§ Not including sums deducted for taxes and workers' social insurance contributions.

AUSTRIA (VIENNA)

PERIODICAL STATISTICS OF THE EMPLOYMENT EXCHANGE, END OF DECEMBER, 1933

Branch, occupation, and sex	Minimum rates of wages	
	Per hour*	Per week
	Sch.	Sch.
Spinning, general† :		
Spinners, M.	0.66	31.68
" F. (piece workers)	0.93‡	44.50‡
Combers, F.	0.46	22.08
Spoolers and menders, F.	0.45	21.60
Helpers, M.	0.56	26.88
" F.	0.45	21.60
Weaving, general† :		
Weavers, M.	0.54	25.82
" M. (piece workers)	0.72‡	34.50‡
" F.	0.50	23.76
Spoolers, F.	0.46	22.08
Slashers, M.	0.61	29.29

* Figures calculated by the International Labour Office by dividing weekly rates by normal hours of work per week (48).

† Principally cotton, but including other fibres.

‡ Average wages.

CANADA

PERIODICAL STATISTICS OF THE DEPARTMENT OF LABOUR, 1933

Cotton (preparing, spinning, weaving and finishing)*
Limits of predominant rates

Occupation and sex	in various selected establishments				Actual hours of work per week	
	Per hour		Per week		A	B
	A	B	A	B	A	B
	\$	\$	\$	\$		
Pickers, M.	0.255	0.360	14.00	16.92	53	47
Carders, M.	0.247	0.340	13.60	16.00	53	47
Spinners (ring), F.	0.208	0.280	11.45	14.00	53	50
Doffers, F.	0.197	0.240	9.26	12.00	47	50
Twisters, F.	0.165	0.246	9.03	12.30	55	50
Spoolers, F.	0.193	0.280	10.60	14.00	55	50
Warpers, F.	0.213	0.295	11.70	16.20	55	55
Beamers, M.	0.216	0.460	11.90	23.00	55	50
Winders, F.	0.186	0.320	10.25	16.00	53	50
Slashers, M.	0.336	0.424	18.50	24.45	55	60
Drawers-in, F.	0.200	0.360	9.00	18.00	45	50
Loomfixers, M.	0.413	0.485	22.70	24.25	55	50
Weavers, M. and F.	0.281	0.360	15.45	18.00	53	50
Bleachers, M.	0.232	0.310	11.60	15.50	50	50
Dyehouse men, M.	0.247	0.318	13.60	15.90	53	50
Finishers, M.	0.245	0.257	12.27	12.85	50	50
Folders, M.	0.195	0.380	10.70	17.10	55	45

A = In the establishment where the predominant wage is the lowest among the establishments covered by the statistics.

B = In the establishment where the predominant wage is the highest among the establishments covered by the statistics.

* Hourly wages calculated by the International Labour Office by dividing weekly wages by actual hours of work per week in the corresponding establishments (A and B).

CHINA (SHANGHAI)

ENQUIRY OF THE BUREAU OF SOCIAL AFFAIRS, 1929

Industry and branch	Monthly earnings							
	Cotton (spinning)		Cotton (weaving)		Wool (weaving)		Bleaching and dyeing	
	Men	Women	Men	Women	Men	Women	Men	Women
	\$	\$	\$	\$	\$	\$	\$	\$
All workers	15.28	12.50	23.54	11.69	16.54	9.43	21.60	—
Industry and branch	Number of workers covered		Rates of wages				Hours of work per day	
	Men	Women	Men	Per hour	Per day	Women	Per hour	Per day
	Men	Women	Cotton	\$	\$	\$	\$	\$
Preparing and spinning :								
All branches	7,558	27,574	0.047	0.552	0.038	0.452	11.75	11.90
Carding (a)	417	56	0.039	0.488	0.034	0.408	12.00	12.00
Drawing (a)	11	684	0.040	0.480	0.032	0.384	12.00	12.00
(b)	—	1,362	—	—	0.037	0.444	—	12.00
Roving (a)	66	1,339	0.038	0.396	0.037	0.444	12.00	12.00
(b)	—	3,799	—	—	0.043	0.516	—	12.00
Ring spinning (a)	7	1,082	0.024	0.288	0.041	0.492	12.00	12.00
(b)	—	7,809	—	—	0.038	0.458	—	12.00
Reeling (b)	—	9,199	—	—	0.038	0.425	—	11.50
Weaving and finishing :	2,558	7,128	0.065	0.722	0.047	0.545	11.10	11.60
All branches	—	314	—	—	0.048	0.557	—	11.60
Warping (b)	—	—	0.051	0.525	—	—	10.80	11.80
Weaving (a)	134	—	0.097	1.057	0.046	0.543	10.90	11.80
(b)	776	4,827	0.047	0.484	0.042	0.475	10.80	11.80
Finishing (a)	347	46	—	—	—	—	—	—

(a) Time workers. (b) Piece workers.

The sign \$ signifies: Shanghai dollar.

ITALY

ENQUIRY OF THE MINISTRY OF CORPORATIONS, MAY, 1929

Cotton (preparing, spinning, weaving, and finishing)

Branch and occupation (and sex)	Earnings*						Percentage of workers working:			Overtime per cent. of normal hours worked
	Number of workers covered		Per hour Excl.	Per day		less than 8 hours	more than 8 hours			
				Excl. payments for overtime	Incl.					
	Males	Females		Lire	Lire	Lire				
Preparing:				Lire	Lire	Lire				
Carding and scutching ..	5,196	1,295	2.03	16.11	16.59		11.9	87.8	0.3	2.5
Drawing and slubbing ..	978	16,854	1.51	11.99	12.19		15.0	84.7	0.3	1.4
Spinning:										
Self-acting	2,628	1,255	1.78	14.17	14.52		14.8	83.7	1.5	2.5
Ring	1,826	26,102	1.39	11.07	11.21		15.0	84.8	0.2	1.2
Other depts.	2,117	12,074	1.46	11.54	11.79		15.1	84.6	0.3	1.9
Doubling	632	12,471	1.35	10.71	10.91		10.9	88.9	0.3	1.6
Weaving:										
Preparing (excl. warping) ..	1,734	18,873	1.28	10.23	10.54		2.5	97.0	0.5	2.4
Warping	115	4,027	1.57	12.59	12.89		2.3	96.7	1.0	2.0
Weavers, M.*	4,039	—	2.19	17.55	17.67		0.8	99.2	0.0	0.5
F.*	—	60,467	1.48	11.85	11.99		3.5	96.1	0.3	0.9
Other workers, M. and F.†	5,726	12,424	1.49	11.91	12.33		3.9	95.9	0.2	2.5
Bleaching and dyeing	12,252	3,439	2.13	17.06	19.01		0.2	99.8	0.0	8.6
All branches	56,507	178,008	1.64	13.07	13.51		7.0	92.6	0.4	2.3

* Excluding apprentices.

† Including apprentices.

‡ Including various departments not given in the table, and in particular the administrative and commercial branches.

UNITED STATES OF AMERICA

ENQUIRY OF THE UNITED STATES DEPARTMENT OF LABOUR, JANUARY-MARCH, 1932

Cotton (preparing, spinning and weaving)

Occupation and sex (or State)	No. of workers covered	Earnings		Hours of work per week		Average days worked per week
		Per hour \$	Per week \$	Actually worked	Full- time	
Pickers, tenders, M. . . .	747	0.233	10.31	44.3	53.8	4.7
Card tenders and strippers, M. . . .	1,567	0.252	10.87	43.2	53.9	4.5
Roving men, M. . . .	1,213	0.204	8.89	43.7	53.8	4.6
Drawing frame tenders, M. . . .	887	0.230	9.57	41.7	54.3	4.3
F. . . .	407	0.222	9.51	42.9	53.0	4.6
Speeder tenders, M. . . .	3,019	0.273	11.86	43.5	54.2	4.5
F. . . .	2,000	0.296	12.52	42.3	51.5	4.9
Slubber tenders, M. . . .	1,027	0.291	12.47	42.8	53.9	4.5
Spinners (mule), M. . . .	85	0.603	21.08	35.0	50.9	4.0
Spinners (frame), M. . . .	1,647	0.214	8.80	41.1	53.6	4.1
F. . . .	8,325	0.213	8.50	40.0	53.6	4.6
Doffers, M. . . .	3,589	0.253	10.56	41.7	53.9	4.5
Spooler tenders, F. . . .	3,670	0.207	8.42	40.6	53.3	4.6
Warper tenders, F. . . .	446	0.264	11.49	43.5	52.6	5.0
Beamer tenders, M. . . .	215	0.384	15.68	43.1	53.3	4.5
Slasher tenders, M. . . .	763	0.324	15.67	48.4	53.5	5.0
Drawers-in (hand), F. . . .	802	0.269	11.39	42.3	53.2	4.9
Drawing-in machine tenders, M. . . .	107	0.366	17.62	48.1	52.5	5.2
Loom fixers, M. . . .	3,083	0.403	19.43	48.1	53.4	5.1
Filling hands, M. . . .	1,730	0.198	8.71	44.1	54.3	4.5
F. . . .	1,830	0.192	8.36	43.5	54.0	4.8
Weavers, M. . . .	7,267	0.314	14.48	46.1	53.1	4.9
F. . . .	4,265	0.307	13.89	45.3	52.0	5.1
Inspectors, F. . . .	1,835	0.202	9.00	44.6	53.1	5.2
Other workers, M. . . .	16,341	0.248	11.49	46.3	53.7	4.9
F. . . .	3,654	0.203	8.70	42.9	52.9	4.8
All workers,* M. . . .	48,168	0.284	12.91	45.5	53.7	4.8
F. . . .	28,462	0.234	9.87	42.2	53.0	4.8
M. and F. . . .	76,630	0.266	11.78	44.3	53.4	4.8
Massachusetts	11,813	0.338	14.65	43.4	48.8	5.2
North Carolina	21,475	0.263	11.69	44.5	54.1	4.7
South Carolina	13,801	0.215	9.06	42.1	54.6	7.4

* Including some occupations not shown in the table.

INDIA (BOMBAY PRESIDENCY)

ENQUIRY OF THE BOMBAY GOVERNMENT LABOUR OFFICE, DECEMBER, 1933

Cotton (spinning and weaving)

Occupation and sex		Bombay (town)						Ahmedabad		Sholapur						
		No. of workers employed	Earnings				No. of working days (month)	No. of workers employed	Daily earnings	Daily earnings						
			Per day	Rs.		p.										
				Rs.	p.	Rs.					p.					
Drawing tenders, M.	(b)	1,308	1	2	8	27	2	4	23.3	1,027	1	3	11	0	12	11
Slubbing tenders, M.	(b)	681	1	3	10	28	7	2	23.0	572	1	5	11	0	14	8
Inter tenders, M.	(b)	1,077	1	3	2	27	4	6	22.8	777	1	5	11	0	13	2
Roving frame tenders (one frame), M.	(b)	1,580	1	2	4	23	13	7	22.6	—	—	—	—	0	12	3
Roving frame tenders (two frame), M.	(b)	253	1	9	5	35	2	4	22.1	1,845	1	3	1	—	—	—
Siders (single side), M. and F.	(a)	7,838	0	14	10	21	3	3	22.9	9,099	1	0	10	0	10	7
Siders (double side), M. and F.	(a)	1,088	1	4	9	29	13	6	23.0	582	1	8	0	—	—	—
"Tarwallas," M. and F.	(a)	2,340	0	13	2	19	1	0	23.1	—	—	—	—	0	8	10
Doffers, M. and F.	(a)	6,825	0	10	10	16	1	10	23.7	7,115	0	11	7	0	7	3
Grey winders, F.	(b)	4,565	0	10	10	16	5	8	24.2	2,406	0	10	11	0	4	11
Colour winders, F.	(b)	2,577	0	13	4	18	0	10	21.7	1,500	0	12	11	0	6	4
Reeders, F.	(b)	5,294	0	11	0	15	14	7	23.2	1,697	0	12	2	0	5	6
Weavers (two looms), M.	(b)	17,408	1	8	10	38	1	1	24.6	22,550*	1	14	11	1	8	0
" (four "), M.	(b)	1,453	2	11	1	60	4	4	25.7	—	—	—	—	—	—	—
All workers, M. and F.	..	..	—	1	1	2	—	—	—	—	1	0	0	0	12	0

(a) Time workers. (b) Piece workers. * In general.

JAPAN

A. PERIODICAL STATISTICS OF THE BUREAU OF STATISTICS OF THE IMPERIAL CABINET, OCTOBER, 1933.*

Industry and branch	Males			Females			Total (M. and F.)
	Under 16 years	Over 16 years	Total	Under 16 years	Over 16 years	Total	
	Yen	Yen	Yen	Yen	Yen	Yen	
Cotton : Spinning	0.538	1.390	1.385	0.506	0.731	0.670	0.780
Weaving	0.465	1.259	1.229	0.459	0.707	0.646	0.760

* For the scope of these statistics and for the data on hours of work (in the textile industry as a whole) see the note on method.

B. PERIODICAL STATISTICS OF THE BANK OF JAPAN, OCTOBER, 1933.

Industry and branch	No. of workers covered*	Earnings				Actual hours of work per day	No. of days worked per month
		Per hour†		Per day			
		Males Yen	Females Yen	Males Yen	Females Yen		
Cotton : Spinning	180,177	0.156	0.077	1.380	0.675	8.82	26.3
Doubling	6,301	0.115	0.161	1.150	0.611	9.98	27.8
Weaving	133,085	0.147	0.072	1.456	0.708	9.88	27.6

* Numbers representing the general scope of the enquiry ; the scope of the separate data (rates, earnings, hours) varies slightly.

† Figures calculated by the International Labour Office by dividing earnings per day by actual hours per day.

POLAND

A. PERIODICAL STATISTICS OF THE CENTRAL OFFICE OF STATISTICS, NOVEMBER, 1931

Cotton, etc. (spinning, etc.)

Occupation and sex (or district)	No. of workers covered	Earnings				Hours worked per week	
		Per hour		Per week		Excl.	Incl.
		Excl.	Incl.	Excl.	Incl.		
		Zl.	Zl.	Zl.	Zl.	Overtime	
Men	5,943	0.81	0.81	28.49	28.66	35.36	35.48
Women	15,639	0.65	0.65	20.75	20.77	32.01	32.03
All males and females*	21,854	0.69	0.69	22.79	22.85	32.93	32.98
Spinners, etc., M.	983	0.94	0.94	35.99	36.00	38.30	38.31
Spinners, ring, F.	5,727	0.70	0.70	22.31	22.31	31.92	31.92

Cotton, linen, silk and wool mixtures, light woollen materials (weaving, etc.)

Men	9,225	0.85	0.85	27.04	27.10	31.80	31.85
Women	11,946	0.69	0.69	20.80	20.81	30.22	30.23
All males and females*	21,376	0.76	0.76	23.44	23.47	30.98	31.01
Weavers, M.	6,603	0.78	0.78	23.49	23.49	30.14	30.14
" F.	8,627	0.72	0.72	21.03	21.03	29.31	29.31

* Including young persons.

SWEDEN

PERIODICAL STATISTICS OF THE BUREAU OF SOCIAL STATISTICS, 1932

Cotton (spinning and weaving)

Sex	No. of workers covered	Earnings				Actual hours per worker per year	
		Per hour		Per week		Excl.	Incl.
		Excl.	Incl.	Excl.	Incl.		
		Kr.	Kr.	Kr.	Kr.	Supplements*	
Men	5,424	0.87	0.91	7.41	41.74	1,948	2,301
Women	5,962	0.68	0.65	5.14	22.28	1,367	1,412
All males and females†	11,381	—	—	5.99	39.29	1,560	1,668

* Payments for overtime, value of allowances in kind, etc.

† Including young persons.

Hours of Work in the Textile Industries.

THE International Labour Office have had under study ever since 1928 the conditions of work in the textile industry, and published in the December issue of the *International Labour Review* an interesting exposition of the conditions existing in the textile industries of a large number of countries. Extracts from this article appear below:—

THE WORLD COTTON AND WOOL INDUSTRIES.

Seven countries (Great Britain, the United States, France, Germany, India, the U.S.S.R., and Japan) together own 80 per cent. of all the spindles in the world cotton industry, and nine countries (the United States, Great Britain, Japan, the U.S.S.R., Germany, France, India, Italy, and Czecho-Slovakia) 82 per cent. of all the looms in the industry. Since the war, the cotton and wool industries have undergone far-reaching structural changes. The severe depression which these industries are going through must be ascribed to changes in the geographical distribution of production, the increase in productive capacity, and alterations in the nature of demand. The changes in the geographical distribution of production are mainly due to the determination of agricultural and colonial countries to become independent of their former sources of supply. The tendency towards world diffusion of the textile industry seems likely to be encouraged by customs tariffs and the quota policies recently adopted.

The number of spindles and looms in the world is now excessive. The increase in productive capacity is to be ascribed to the considerable increase in the number of spindles and looms; to the continual replacement of the older processes by automatic devices, and to the increase in the amount of machinery tended by each worker, notably as a result of improvements which reduce the number of stoppages in the process of weaving. The most characteristic alterations in cotton goods demand are a growing dislike for certain high-grade fabrics and heavy fabrics, and in particular the partial or total substitution of rayon goods for a large variety of cotton goods. The new tendencies in demand are not so marked for wool as for cotton, because in the East the wearing of European dress has created new markets; but for cotton the falling-off is serious, in spite of the substantial consumption in other industries, e.g., the motor-car industry, aeroplane manufacture, the electrical industry, etc.

In these conditions it is not surprising that in so widely diffused an industry which is undergoing so much transformation, and the vitality of which is so gravely undermined, the heads of undertakings should engaged in unbridled competition in order to retain or capture an increasingly elusive market. Inevitably, however, a time must come when a search would be made for the means of reorganising the textile industry so as to make it capable of work-

ing more steadily. The regulation of hours of work is not the least important of the means proposed.

The "regulation" normal hours of work in the textile industry in most countries were reduced immediately after the war from 60 or 55 hours per week to 48 hours per week. The principal countries producing cotton and wool yarn and piece goods may be divided into three groups:—

- (a) Countries where the regulation normal hours of work are 48 per week: Austria, Belgium, Czecho-Slovakia, France, Germany, Great Britain, Italy, Mexico, the Netherlands, Poland, Rumania, Spain, Switzerland, Yugoslavia.
- (b) Countries where the regulation normal hours of work are over 48: China, India, Japan.
- (c) Countries where the regulation normal hours of work are under 48: the U.S.S.R., the United States.

(a) In certain countries, such as Austria and Germany, the 48-hour week was introduced in 1918, in the midst of a revolution. In others, such as Great Britain and the Netherlands, this took place in 1919, following on serious industrial disputes. In yet others, such as the new Polish and Czecho-Slovak states, the 48-hour week was one of the fundamental reforms on which national unity was based, this unity being inspired by a genuine desire for social peace. In a similar spirit the important agreement for the French textile industry of the cantons of Roubaix, Tourcoing and Lannoy was concluded on June 24, 1919, and the workers declared "they would make every effort to maintain the pre-war level of production by sympathetically adjusting themselves to mechanisation and rationalisation."

In Germany and Poland the working week, before being fixed at 48 hours, had for several years been 46 hours, and in the Netherlands it was even 45 hours. In the Netherlands, a very serious dispute, which lasted until May, 1924, was ended only by Government arbitration. Under the award, wages were to be reduced by 7½ per cent. and the workers were to work 130 hours overtime per year.

In Germany, agreements and awards since 1923 permitted the management of an undertaking on its own authority to work three additional hours per week, and by agreement with the staff, a further three hours. As a result, however, of the present depression, the Reich Minister for Economic Affairs issued an Order, dated July 19, 1934, under which the working week may not exceed 36 hours in certain branches of the textile industry, except for special and exceptional reasons, such as carrying out orders for export. In Poland, in 1933, the working week was extended from 46 hours to 48 hours by an amendment to the 1919 Act. The textile industry observes the statutory provisions.

In every country where a regulation working week of 48 hours exists, it is prescribed by law, except in Great Britain. In Great Britain the hours of work of adult men are not subject to statutory regulation. The Factory Act of 1901, the most recent in date, merely fixed the working week at 55½ hours for women and young persons. Since 1919, however, the normal hours of work in textile factories have by collective agreement been 48 hours per week. The

cotton and wool agreements in 1919 for a 48-hour week increased both hourly rates and piece rates so as to maintain earnings at their existing level.

In Switzerland, Belgium, and Yugoslavia, the 48-hour week was introduced in 1919-1922 in the textile industry in accordance with general legislation on hours of work. In Switzerland the Federal Council is empowered "to authorize in particular industries a maximum working week of 52 hours if this is justified by necessity." This provision is fairly widely applied in the textile industry, in particular, in the cotton industry. Recent reports speak of a marked fall in the number of permits granted, but give no statistical information.

In Yugoslavia the working of eight hours may be extended by not more than two hours in the form of overtime. This exception comes into force when decided on by four-fifths of the workers in the undertaking voting by secret ballot. Overtime so worked must be paid for at time-and-a-half rates.

In Austria, France, and Czecho-Slovakia, the 48-hour week was introduced by legislation and collective agreements in the immediate post-war period. In France, the Orders of December 27, 1933, abolished overtime to meet exceptional pressure of work.

In Rumania, the Act of January 30, 1929, made the eight-hour day and 48-hour week compulsory for all industrial undertakings.

In Mexico the Federal Act of August 18, 1931, established a working day for adults of eight hours for day work and seven hours for night work, in all industrial undertakings in Mexico.

COUNTRIES EXCEEDING FORTY-EIGHT HOURS.

(b) The tendency to reduce hours of work made itself felt rather later in the Asiatic countries, where, as long as manual work played a predominant part in manufacture, output remained well below that of Western countries. It should be noted, however, that the weekly rest is tending to become general in the textile industry of the Asiatic countries. In India and China the Factories Acts prescribe that a worker must receive one rest day per week. In Japan, the Factory Act provides that 48 hours of rest (two days and two nights) must be given each month. Owing to the plan for the restriction of output in the cotton industry in force since 1930, cotton mills close for 96 hours (four days and four nights), and it is expected that the system of the weekly rest will be continued.

The Chinese Factory Act, December 30, 1932, limits the normal working day for adults to eight hours, but provides for a possible extension to 10 hours when necessary, and hours may be extended on condition that the working day does not exceed 12 hours and that overtime does not exceed 46 hours per month. In a communication to the International Labour Office of January 13, 1934, the Chinese Government stated that it was impossible to apply the 48-hour week strictly, and that it would continue its efforts to limit overtime.

A recent Indian Factories Act, dated July 19, 1934, which is to come into force on January 1, 1935, reduces the working week to 54 hours.

Under the Japanese Factory Act, 1923 and 1929, normal hours of work are limited only for men and young persons in factories

which regularly employ 10 or more persons. The working day may not exceed 11 hours, including a break of one hour. The hours actually worked in June, 1934, were: cotton spinning, 8.83 hours, 26.8 days worked per month; twisting, 10.08 hours, 27.8 days; weaving, 9.95 hours, 28 days; dyeing and finishing, 10.6 hours, 27.3 days.

HOURS LESS THAN FORTY-EIGHT.

(c) In the U.S.S.R., the Manifesto of October 15, 1927, supplemented by the Order of January 2, 1929, established the principle of the seven-hour day in industry to combat unemployment. The seven-hour day is very general in the textile industry, to judge from the last statistics published. Since the end of 1931 the six-day week, with five working days, has been in operation in the U.S.S.R. Averaged over a 52-week year, the average working week is found to be a little less than 41 hours.

In the United States, until the adoption of the codes of fair competition, in the principal States producing textiles, the maximum working week was as follows: Massachusetts, 48 hours; Pennsylvania and Maine, 54 hours; North Carolina, 55 hours for women; South Carolina, 55 hours; Georgia, 60 hours for men and women in the textile industry only. The Codes under the National Recovery Act limit hours of work to 40 per week and the operation of productive machinery to two shifts of 40 hours each per week in all the principal textile industries.

LOST TIME.

Although the regulation normal hours of work may be the same for several workers, the work they actually do may vary in length according as the regulations do or do not allow for the making up of lost time, include or exclude time spent on cleaning, or do or do not provide for shorter hours where a shift system is in force. In Poland the working day may be 10 hours during a specified period, provided the annual average does not exceed 48 hours per week. In Italy, for workers engaged in dyeing, printing, bleaching, and finishing the normal working week may be extended to 60 hours during three months, provided that the annual average of 48 hours is observed; for workers in other branches of the industry, the working week may be extended to 60 hours, provided that in each period of three months the weekly average does not exceed 48 hours.

In the Netherlands, after agreement between employers and workers, the Minister of Labour may authorise an extension on condition that the hours of women do not exceed 10 per day and 55 per week, and those of men 11 per day and 62 per week, and that during a civil year not more than 2,500 hours are worked. Time lost owing to an interruption in the working of the undertaking may be made up, but the total hours so made up may not exceed 17 per year.

In Italy the time lost may be made up by extending the working day by not more than one hour during the two fortnights immediately following the stoppage. According to the collective agreement for the wool industry, lost time must be made up within two weeks if it does not exceed two consecutive hours, or else within three months. The extension of the working day may not

exceed one hour for normal day shifts and half an hour if the work is organized in two shifts.

In France, permits may be granted for making up lost time after consulting the employers' and workers' organizations concerned. The permits may in no case extend the working day to more than 10 hours. They may be granted up to a maximum of 100 hours per year for making up time lost in slack seasons.

CLEANING AND OILING.

The cleaning and oiling of spindles and looms may be entrusted to special gangs, in which case the spinners and weavers can devote themselves solely to productive work. If, however, the latter are made responsible for cleaning and oiling the machinery, the time they spend on this work is in some countries included in the normal hours, while in others it is in addition to them. In the latter countries the hours are longer than in the former. There is also no uniformity as to the time to be spent on cleaning and oiling machinery. This is fixed at half an hour in Great Britain, where the productive hours are consequently only $47\frac{1}{2}$ per week, and at one hour in Austria, where the productive hours are not more than 47. In Czecho-Slovakia the cleaning of machinery must begin half an hour before the end of the working week. In France, according to the agreement for Roubaix, Tourcoing, and Lannoy, a distinction is drawn between minor daily cleaning and periodical overhauls. Daily cleaning and oiling is included in the actual working hours, whereas periodical overhauls may be carried out outside actual working hours, and are paid at overtime rates.

DOUBLE SHIFTS.

The prohibition of night work for women usually covers only a period of at most eight hours, so that a system of two eight-hour shifts could be worked by women. In a few countries the workers employed on the shift system work less than the normal number of hours. In Austria, where undertakings introduce a two- or three-shift system, and thus make their workers work eight consecutive hours, they must allow them a break for meals while the machinery is working. In Great Britain, when shift work—which is not frequent in the textile industry—is authorized, hours are reduced to an average of $40\frac{1}{4}$ per week. In Italy, when two shifts are worked, the normal eight-hour day must include a half-hour break. In Spain, night shifts of not more than seven hours may be worked in addition to the day shifts.

In Mexico, three shifts a day, of eight, seven and seven hours, may be organized.

OVERTIME AND EXCEPTIONS.

Some of the regulations applying specially to the textile industry which contain detailed provisions relating to exceptions may be taken first. In Great Britain the collective agreements make no reference to overtime. The workers have opposed all overtime. While in the cotton industry overtime is entirely prohibited, in the wool industry a compromise was reached by the Industrial Council according to which overtime worked with the approval of the Council may not result in extending the working week beyond $55\frac{1}{2}$

hours for women and young persons. Overtime rates are time and a quarter for the first two hours per day and time and a half after. During the week ending August 25, 1934, 17 per cent. of the workers worked on an average eight hours overtime in the wool-spinning industry, and 9 per cent. of the workers five hours overtime in the wool-weaving industry.

In the United States the codes provide for no exception to the normal system of the 40-hour week, apart from certain specified categories of workers, such as repair shop crews, office staff, etc.

In the Netherlands overtime may be worked during not more than 13 weeks per year at the rate of five hours of overtime per week at a rate of 15 per cent. increase.

In Mexico, subject to the workers' consent, overtime may be worked, but may in no case exceed three hours per day or be worked more than three times per week. It must be paid at double rates.

In France the Public Administrative Regulations provide for certain permanent exceptions, including foremen, repair workers, and men specially employed in connection with furnaces, drying-rooms, etc.

In Germany, after the legislation had been made more flexible in December, 1923, it was possible to add regularly to each normal working week of 48 hours a certain number of "additional" hours, as a rule three to six, sometimes with an increase in wages of from 5 per cent. to 20 per cent. from the 49th or the 53rd hour onwards. Important restrictions have, however, been imposed on the facilities allowed by regulations such as the above, for the Provisional Order of July 19, 1934, has fixed a maximum working week of 36 hours for the textile industry, except for the spinning of cotton, hemp and jute.

In other countries, among the permanent exceptions affecting the cotton and wool industries is that relating to operations which cannot be stopped at will, such as bleaching and dyeing. For these operations hours of work may be extended, although as a rule the law does not specify any limit to the extension. Permanent exceptions are also allowed for categories of firemen, etc., and staff whose work is essentially intermittent. Here again the regulations vary in regard to the precision of their definitions.

For the present purpose the most important figure is that of the maximum overtime allowed to meet an exceptional pressure of work. The maximum is 60 hours in Germany, Austria and Yugoslavia; 75 hours in Estonia; 100 hours in France (overtime provisions, however, are temporarily suspended); 120 hours in Spain and Japan; 160 hours in Switzerland; and 240 hours in Czechoslovakia. In Italy, the maximum is two hours per day and 12 hours per week. In the U.S.S.R. the law allows overtime to be worked. It may be added that in India the Local Government may, by order, exempt any factory from the provisions of the Act concerning hours of work, so as to enable it to cope with an exceptional pressure of work. The increase in pay for overtime varies from 25 per cent. to 100 per cent. according to country. The exceptions allowed to enable undertakings to meet an exceptional pressure of work are especially varied.

EFFECT OF INTERNATIONAL COMPETITION.

The available information on the shift systems actually worked in the textile industry refers to different dates and only to a few countries. The two-shift system is said to be commonly applied in China and Japan. In China, the textile factories usually work two shifts.

In Japan, Mr. Seitaro Kamisaka, General Secretary of the Japan Cotton Spinners' Association, states (1934) that "up to the end of June, 1929, the working hours of cotton mills were generally ten hours per day with two shifts, but since July 1, same year, midnight work from 10 p.m. to 5 a.m. was prohibited, and since then 8½ hours per day with two shifts were introduced instead in compliance with the revised Factory Law."

In India, in 1933, textile factories usually worked one 10-hour shift, with the exception of about ten factories, which worked two shifts. In the U.S.S.R., work in the textile industry is usually organized in two shifts. In other countries, such as Germany, Belgium, the United States, and Czecho-Slovakia, the tendency to introduce the multiple-shift system seems less marked, but no statistics can be given as to the extent of the various systems. In Great Britain, the two-shift system is very exceptional; the system has been authorized chiefly for certain rayon factories.

In October, 1929, the Polish Spinners' Association specifically prohibited its members from working more than one shift on the ground that "the two-shift and the three-shift systems were the cause of the catastrophic depression of the industry."

THE REDUCTION OF REGULATION HOURS OF WORK.

Since 1929, the profound changes convulsing the textile industry have laid it more open to the effects of the depression than other industries. The attempts to regulate short time in the cotton industry at first aimed merely at reducing the volume of production and were not intended to cover more than very brief periods. The two proposals of this kind made in Great Britain in 1928 were a failure.

More recently, the aggravation of the depression has given the proposed measures a social aspect, for they are now inspired by the wish, not only to reduce the volume of production, but also to provide employment for as many workers as possible.

In the United States, the Cotton Textile Institute tried on several occasions to reduce hours of work, but failed. The N.R.A. code, however, limits the hours of work of the workers to 40 per week, but allows the undertakings to operate machinery for 80 hours per week by working two shifts. But the reappearance of the risk of over-production led to the decision that the Cotton Textile Industry Committee should have power to order, with the approval of a member representing the Government, the limitation of the hours of operation of machinery for a period not exceeding ninety days. The hours of operation were several times limited to 75 per cent.

In Germany, the Order of July 19, 1934, issued by the Minister of Economic Affairs in agreement with the Minister of Labour and the Minister of Food, aims at regulating the transformation of textile raw materials, the importation of which has had to be

severely restricted owing to the exchange situation, and at rationing existing stocks (and employment) in Germany.

The Order applies to undertakings engaged either partly or wholly in the working of wool, cotton, hemp, and jute, including weaving, twisting, knitting, and felt making, excluding spinning of cotton, hemp, and jute, the manufacture of string and cord, ribbon, lace, trimmings, curtains and net. The normal working day is reduced by 30 per cent. below the average number of hours regularly worked per day in the first half of 1934, or to 36 hours per week if greater. Since August 6, 1934, the undertakings covered may not work two or three shifts unless they did so during not less than thirteen weeks in the first half of 1934. Restoration or extension of multiple shifts is allowed only by permission of the industrial inspectorate, and for special reasons.

In Spain, the Ministry of Industry and Commerce on September 28, 1934, prohibited the working of a third shift in cotton spinning and weaving, the reason given being the lack of equilibrium between industrial production and consumption.

More Mills in India in 1934.

According to the annual mill statement for the cotton year ended August 31, 1934, just issued by the Millowners' Association, Bombay, the total paid-up capital of the industry as on August 31, 1934, amounted to Rs.39,22 lacs, a drop of Rs.43 lacs compared with last year. In Bombay city and island the total paid-up capital of the completely equipped mills fell by Rs.66 lacs to the figure of Rs.13,31 lacs.

The total number of equipped mills in India, according to this year's mill statement, is 352, as against 344 on August 31, 1933. There is a net decrease of three mills in Bombay city and island. The number of mills in Ahmedabad remains the same at 82. The number of mills in the Bombay Presidency, exclusive of Ahmedabad and Bombay city and island, increased from 60 to 62.

In Bengal the number of equipped mills is now 22, as against 19 last year. There was no change in the number of mills in the United Provinces and Central India, but the number of equipped mills in the Madras Presidency increased from 28 to 32.

Out of the 352 equipped mills in the country 29 were completely stopped during the whole of the year to which the statement relates. Of these 29 mills 14 were located in Bombay city and island. Since the statement was prepared the number of idle mills in Bombay city and island has decreased owing to the reopening under new ownership of some of the mills which were formerly under the agency of Messrs. Currimbhoy Ebrahim & Sons Ltd.

The total number of spindles in the equipped mills of the country now stands at 9,613,000, an increase of 41,000 during the year. The total number of looms is 104,088, an increase of 6,000 during the year. In Bombay city and island the number of looms fell from 73,000 to 70,000, and the number of spindles also declined.

In Ahmedabad the number of spindles increased by 31,000 to

2,010,000 and the number of looms increased from 47,200 to 49,000. In Bombay Presidency, exclusive of Ahmedabad and Bombay city, the number of spindles and looms increased by 27,000 and 2,800 respectively.

The activity of the industry as compared with the previous year is reflected in the figures of cotton consumed. In the year ending August 31, 1934, the industry consumed 1,352,000 candies of cotton, as compared with 1,410,000 candies in the previous year.

The average number of spindles working daily during the year was 7,845,000, out of a total of 9,613,000 erected. Last year the corresponding figures were 8,202,000 working out of a total of 9,572,000 erected. Of the 105,000 looms erected, an average of 159,000 were working daily during the year. This compares with the figure of 162,000 working daily in the previous year.

In Bombay city and island only 2,043,000 spindles and 49,000 looms out of 3,170,000 spindles and 70,000 looms were working regularly. The above-quoted figures of spindle and loom activity do not include night-shift working.

The number of operatives employed daily on day-shift work was approximately 385,000, as against 400,000 in the previous year. Particulars of the numbers regularly employed on night-shift work are not available.

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SHORTER HOURS IN INDIA.

A nine-hour day has just come into force (on January 1) in the cotton textile and other factories in India in conformity with the new Factory Act. According to recent reports from Bombay, there will be no wage adjustments in the Bombay mill industry since the reduction in hours was anticipated in the new schedule of wage rates which was brought in after the strike early this year.

Ahmedabad millowners decided in the middle of December to make a direct cut of 10 per cent. in the wages of time workers from January 1 to meet the reduced hours. The Ahmedabad Association is also at loggerheads with the Labour Union, which has hitherto worked in harmony with the owners. The Association has decided that the collection of subscriptions by the mills for the Labour Union must be stopped. There is talk of the possibility of this leading to labour troubles and a strike in the mills.

Bengal cotton mills do not contemplate any cut to make up the reduction of hours. Bengal millowners are also opposed to joining in any curtailment of production. Efforts are being made to bring the Bombay and Ahmedabad millowners together in some common policy to keep production down chiefly by abolishing night shifts.

The introduction of night shifts in the Bombay mill industry since the strike and since the effects of the Japanese quota have been fully evident, has made a great difference to the labour situation. Before the strike, which began at the end of April and ended in the last week in June, the number of operatives employed in the Bombay mills on day shift was 95,000 and on night shift only 8,000; the figures now are 115,000 on day and 20,000 on night.

The Bombay Millowners' Association and the Ahmedabad Millowners' Association, says *Commerce*, Calcutta, are, it is understood, convening an all-India conference of millowners to decide on concerted action on the enforcement of the new nine-hour day.

It is feared that this measure will increase production costs. Many mills propose to work day and night to reduce costs, but since this may depress the market by overproduction, it is strongly felt that all mills should stop night work.

AN EXPORT SUBSIDY FOR THE AMERICAN COTTON MANUFACTURERS ?

A hint of a subsidy for the exporting section of the American cotton textile industry may be found in the following extract from a statement received recently from New York:—

"Among the news features of the week may be noted a suggestion for the stimulation of our export trade in cotton textiles. This proposal involves a "tolerance" of \$20 per bale on raw material manufactured into goods for export. In view of the fact that cotton textile exports are immune from the processing tax, this concession might be expected to give American manufacturers an opportunity to compete effectively with the mills of other countries."

REPERCUSSIONS OF THE PROCESSING TAX IN U.S.A.

An interesting sidelight upon the effect which the Processing Tax at present in force in U.S.A. is having upon the textile industry in that country, is provided by an article which recently appeared in the *New York Journal of Commerce*.

According to this article, selling agents are constantly receiving complaints from manufacturers of the meagre profit opportunities available, and this is true in silk and wool goods houses as well as in the cotton goods field. Control and reduction of cotton acreage has been planned, and the Government owns such a large part of the present crop at 12 cents a pound that little hope exists of cheaper cotton as the crop year goes on. In addition to a pegged Government price, the Government is still insisting that a processing tax is essential for the maintenance of the cotton farmer. The huge sums mills pay in the way of added costs of production make it appear very unlikely that stockholders will receive any substantial return from the proceeds of a full output. Mills and their agents continue to sell goods at prices that enable distributors and store-keepers to dispose of more cotton goods, and they also complain that their profits are limited.

Social Aspects of Industrial Development in Japan.

A recent publication by the International Labour Office has been issued, at the price of 1s. 6d., with the above title.

The report has been written by Fernand Maurette, Assistant Director to the International Labour Office, Geneva.

The author visited Japan in the spring of 1934, and this report is the result of his visit. He inspected various establishments, namely, cotton spinning and weaving firms, iron factories, glass works, etc.

On the cotton spinning and weaving industry, he says:—

Of these industries the most important is the cotton trade. Cotton spinning and weaving is the occupation of some 350,000 workers, 50,000 men and 300,000 women. In 1933 the export of cotton goods was the second largest export of the country, and amounted to 20 per cent. of the total exports, coming immediately after raw silk. It is also the most concentrated of all the textile trades, both commercially by the well-organized concentration of the output of the smaller workshops, and industrially by the erection of large factories with the latest machinery which play the principal part in the present export of cotton yarn and material. Three of the larger factories were visited.

In Tokyo a visit was paid to the Hashiba Works belonging to the Dai-Nipon Cotton Spinning Company, which has a paid-up capital of 52,000,000 yen, and a reserve of 41,470,000 yen, and

which possesses 23 factories in various places in Japan, representing 1,052,000 spindles and more than 11,000 looms, employing 12,223 workers, 970 of whom are men and 11,253 women (the figures refer to the end of 1933). The factory visited is one of the largest. It employs 2,000 workers, 20 per cent. of whom are men and 80 per cent. women. It contains 97,736 spindles and 8,000 looms. Mechanization is here highly developed. The equipment, which formerly came from abroad, is tending to become exclusively Japanese. Mechanical rationalisation is carried to the extreme. I saw girls supervising eight ordinary looms or from thirty to forty automatic looms. Some workshops appeared to be almost empty of workers. This consideration should not be neglected when the part played by conditions of work in cost prices and export possibilities is being considered.

At Ichinomiya, near Nagoya, a similar spinning factory was visited, belonging to the Toyo Spinning Company, the capital of which is 64,975,000 yen and the reserves 62,965,000 yen. It is the largest company belonging to the powerful association of Japanese cotton spinners. This factory possesses 27,650 spindles and 1,028 looms, and employs 790 workers, 133 of whom are men and 657 women.

The last of these factories visited was that belonging to the Kanegafuchi Cotton Spinning Company on the outskirts of Osaka, in the Yodogawa district. This factory employs 1,800 workers—1,440 men and 360 women—and appeared to me to be an extreme example of export factories, as 90 per cent. of its output is intended for export. Only part of its output is spun and woven in the factory itself (the small proportion of women on the staff indicates this fact), but it dyes, prepares and finishes for sale not only its own yarn and cloth, but those which are received from other factories and workshops of the company. There was no opportunity to visit any of these subsidiary workshops.

DUTCH ENABLING BILL.

A bill to empower the Dutch Government to declare agreements between sections of industrial groups binding on the whole group will come before Parliament in a few weeks time.

The law will be of great importance to Dutch economic life, for it will give the Government great powers. If a group of firms, for instance, in the cotton industry, wish to conclude a price agreement or an agreement on conditions, and a few firms refuse for any reason to join in, the Government may declare the agreement binding on all members of the group.

There has been strong opposition to the bill out of fear that the influence of the Government will be unduly increased. The Government has met this in some degree by modifications of the bill, and a few days ago details of the modification were laid before the Second Chamber of Parliament.

Once it becomes law the Dutch cotton industry will be able to bring its internal affairs into order. A full year ago the industry drafted a general agreement on conditions in order to get rid of the worst abuses in the piece-goods market. Exports have

vanished almost completely, and attention is concentrated on a small home market. Competition has been extremely keen in price, and, not only that, but terms have virtually been dictated by the customers.

The agreement made detailed provisions in regard to terms, wholesalers' discounts, unjustified cancelling of orders, and so on, and in view of the precarious state of the industry most of the cotton firms agreed to its provisions; but a few stood out, and so brought matters to a standstill. Once the law comes into force it may be taken for granted that the cotton industry will at once proceed to carry out the agreement.

BULGARIA.

According to recent information from the U.S. Consular Service, the textile industry has been afforded considerable protection by the various import restrictions designed to correct the country's balance of payments. There has been, therefore, in the last three years some expansion in cotton spinning and weaving. Official figures compiled some months ago showed 79,000 spindles and 3,200 looms in operation. It is estimated that there are about 9,000 operatives engaged in cotton manufacturing.

ESTONIA.

Raw cotton was added to the list of commodities requiring an import permit, by an amendment to the Estonian law governing imports, effective October 26, 1934. The new measure is said to be for the purpose of exercising control over prices at which cotton is imported into Estonia, and does not contemplate the limitation of imports or the favouring of importation from any particular country.

FRANCE

A number of workpeople in the cotton industry in the Roanne district ceased work on November 8, 1934, as the result of an announcement by the employers' federation that a wage reduction of 12 per cent. would be imposed as from November 16. It is reported that grievances had also arisen in connection with the introduction of multiple and automatic looms. The stoppage subsequently extended, and it is estimated that ultimately about 8,000 workpeople in the district were involved. After prolonged negotiations between the parties, an agreement was reached on January 4, 1935, and work was resumed on January 7. The terms of settlement provide for a wage reduction of 9 per cent. (to be postponed until July 1, 1935, in the case of workpeople earning less than 150 francs a fortnight) and the drawing up by a committee composed of representatives of employers and workpeople of a wage tariff for multiple and automatic loom operators, whose wage rates have hitherto been fixed by the individual employers.

(Ministry of Labour Gazette).

SPAIN.

An order of September 28, 1934, of the Spanish Ministry of Industry and Commerce prohibits the textile industry from working the third shift, allowing a maximum of six months for adjustment to the new order. The Cotton Industrial Committee is likewise authorized to study other methods of relieving the current crisis and to submit a report to the Ministry.

VENEZUELA.

Imports of cotton textiles in 1933 amounted to 3,005,834 kilos, valued at 13,615,474 bolivares (bolivar=about \$0.186 at average exchange in 1933). Japan supplied 48,797 kilos, valued at 140,888 bolivares, or more than five times as much as in the preceding year. Figures for recent months are not available, but the trade estimates that about 12,000 kilos of Japan's textiles, with a value of approximately 25,000 bolivares (present value of bolivar about \$0.26) are being imported monthly through the port of La Guira. Japanese prices, on an average, are about 25 per cent. lower than American and European quotations for similar goods. The situation is reported to be causing considerable anxiety among local distributors, who are finding it difficult to move their stocks of American and European goods in the face of Japanese competition.

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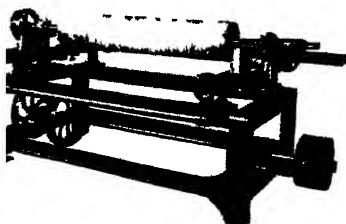
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COTTON TRADE STATISTICS

GREAT BRITAIN

COTTON YARN EXPORTS.

Twelve months ended December 31st

	1932 lb	1933 lb	1934 lb
British West Africa	1,287,400	1,103,100	841,000
British India—			
Bombay via Karachi	323,700	250,400	235,000
" other ports	3,468,500	2,165,800	1,871,800
(Total)	3,792,200	2,416,400	2,106,800
Madras	7,036,100	4,740,800	3,686,900
Bengal, Assam, Bihar and Orissa	2,964,900	3,088,000	2,969,200
Burma	843,300	496,600	532,700
Total (British India)	14,636,500	10,741,600	9,295,600
Hong Kong	5,017,400	1,245,600	1,300,900
Australia	6,282,400	5,416,700	5,630,100
Canada	2,048,400	3,034,800	4,097,100
Other British countries	3,867,000	4,553,100	6,163,200
Finland	672,900	649,700	788,800
Sweden	3,184,600	3,740,900	5,355,400
Norway	5,262,700	3,959,800	4,589,900
Denmark	2,327,400	3,270,800	3,445,700
Poland	1,632,000	3,339,400	1,482,000
Germany	29,077,800	29,995,500	19,073,900
Netherlands	18,188,200	13,264,900	14,446,400
Belgium	3,692,500	5,303,000	4,408,800
France	1,112,300	866,100	428,000
Switzerland	3,871,900	3,547,700	4,862,600
Italy	325,000	487,700	259,000
Austria	713,700	861,700	778,500
Czechoslovakia	1,421,300	1,342,600	2,090,500
Yugoslavia	1,643,300	1,831,100	2,404,900
Greece	804,700	787,100	897,200
Bulgaria	2,413,300	859,200	1,025,700
Roumania	11,421,700	12,898,400	10,801,200
Turkey	1,145,400	956,900	1,147,000
China	5,324,300	641,300	915,700
Japan	1,363,100	1,221,600	1,309,300
United States of America	1,128,800	1,375,900	1,425,900
Brazil	1,406,500	2,894,800	2,838,400
Argentine Republic	3,545,800	6,077,200	7,933,200
Other foreign countries	6,644,800	8,841,300	10,289,800
Counts { Up to 40's	73,304,700	71,802,200	74,169,800
Over 40's up to 80's	51,437,500	45,046,900	38,330,500
Over 80's up to 120's	14,904,800	16,455,500	15,908,800
Over 120's	1,816,200	1,806,800	2,016,600
Grey, unbleached	124,370,500	119,000,000	114,304,000
Bleached and dyed—			
Mercerised	5,357,200	6,145,800	6,484,700
Not mercerised	11,735,400	9,965,600	9,637,000

GREAT BRITAIN

COTTON PIECE GOODS EXPORTS.

Twelve months ended December 31st

	1932	1933	1934
	Sq. yds. (in 1,000's)	Sq. yds. (in 1,000's)	Sq. yds. (in 1,000's)
Irish Free State	28,050	34,022	40,762
British West Africa	159,363	102,300	67,999
Union of South Africa	46,684	113,351	121,102
Southern Rhodesia	4,689	7,170	8,177
British East Africa	13,272	9,678	8,489
Anglo-Egyptian Sudan	8,202	8,194	3,949
Aden and Dependencies	9,871	5,595	2,938
<hr/>			
British India—			
Bombay via Karachi	224,864	146,975	183,248
" „ other ports	115,067	111,782	142,817
" (Total)	339,931	258,757	326,065
Madras	78,127	66,094	59,385
Bengal, Assam, Bihar and Orissa	129,501	131,376	161,206
Burma	51,333	29,512	36,113
Total (British India)	598,892	485,739	582,769
<hr/>			
British Malaya	37,343	26,026	28,469
Ceylon	16,656	9,966	12,326
Hong Kong	52,867	18,598	5,436
Australia	166,520	145,742	141,533
New Zealand	40,558	36,903	36,186
Canada	27,238	46,704	63,821
British West India Islands	23,075	19,292	22,244
British Guiana	6,217	6,242	4,704
Other British countries	18,283	16,801	16,960
Finland	2,613	3,914	7,043
Latvia	1,041	2,726	2,540
Sweden	19,877	19,008	25,349
Norway	17,792	16,325	18,379
Denmark	34,791	48,598	50,012
Germany	28,070	26,041	22,828
Netherlands	34,965	23,098	18,745
Belgium	11,960	12,782	10,635
France	3,643	4,119	2,932
Switzerland	42,141	72,644	55,953
Portugal	5,690	5,489	4,226
Spain	741	581	664
Italy	2,476	3,284	3,781
Austria	4,982	5,542	4,144
Yugoslavia	3,797	3,910	4,848
Greece	19,003	24,011	26,856
Roumania	12,654	12,184	11,331
Turkey	25,781	34,652	13,838
Syria	7,136	5,715	4,480
Egypt	81,913	64,061	48,574
Spanish Ports in North Africa	7,336	5,837	3,149
Morocco	52,785	43,128	18,309
French West and Equatorial Africa	36,056	34,888	30,313
Belgian Congo	9,281	11,705	9,965
Portuguese East Africa	4,667	7,087	5,213
Iraq	38,947	16,909	12,912
Persia	19,699	8,484	5,027
Dutch East Indies	43,868	20,915	14,515
Philippine Islands	5,094	3,049	3,540
Siam	9,459	7,366	3,568

GREAT BRITAIN**COTTON PIECE GOODS EXPORTS—continued.**

	1932 Sq. yds. (in 1,000's)	1933 Sq. yds. (in 1,000's)	1934 Sq. yds. (in 1,000's)
China	72,598	33,747	14,531
Japan	4,200	1,921	1,317
United States of America	10,551	11,857	11,062
Cuba	5,222	5,289	15,419
Mexico	2,161	2,887	2,619
Colombia	38,489	61,157	44,947
Venezuela	20,641	22,454	21,952
Ecuador	3,263	2,721	2,336
Peru	7,123	7,669	10,712
Chile	2,749	7,536	18,727
Brazil	2,870	4,960	2,929
Uruguay	11,478	15,226	15,448
Argentine Republic	115,983	146,232	161,341
Other foreign countries	54,105	67,200	63,585
Grey, unbleached	366,442	375,572	359,352
Bleached	782,586	653,957	614,743
Printed—			
Cretones and chintzes	399,531	6,689	5,637
Other sorts		362,740	392,442
Dyed in the piece—			
File fabrics	541,103	543,068	533,438
Other sorts		3,325	3,325
Manufactured of dyed yarn	107,809	94,881	84,520

**EXPORTS OF PIECE GOODS FROM THE UNITED KINGDOM
CONTAINING ARTIFICIAL SILK AND COTTON**

(Per Board of Trade returns)

	Year	
	1934	1933
Wholly of artificial silk—		
To		
Union of South Africa sq. yds.	2,369,687	1,788,267
Australia "	2,632,012	1,496,838
New Zealand "	2,081,299	1,226,307
Canada "	456,958	525,752
Other British countries "	6,197,051	3,719,564
Foreign countries "	2,298,075	2,085,223
Total "	16,035,082	10,841,951
All other descriptions lbs.	253,533	178,043
Of artificial silk, mixed with other materials—		
Irish Free State sq. yds.	4,023,776	3,096,109
British West Africa "	846,329	1,151,325
Union of South Africa "	7,208,168	5,450,336
British India "	8,871,685	5,784,160
Australia "	7,053,660	6,225,508
New Zealand "	2,791,494	2,617,414
Canada "	3,412,809	3,643,773
Other British countries "	3,428,368	2,937,903
Dutch East Indies "	230,178	1,128,607
Egypt "	235,793	466,999
Argentine Republic "	1,464,339	947,363
Other foreign countries "	9,697,148	9,903,487
Total "	49,263,747	43,372,984

GREAT BRITAIN

COTTON YARN AND CLOTH EXPORTS

		Yarn		Cloth	
		lbs.	£	Linear yds.	£
1913	..	210,099,000	15,006,291	7,075,232,000	97,775,855
1914	..	178,527,800	11,973,956	5,735,854,700	79,182,763
1915	..	188,178,700	10,312,934	4,748,904,600	64,702,574
1916	..	172,192,800	13,432,761	5,255,503,900	88,793,778
1917	..	133,153,480	16,708,035	4,979,076,900	112,787,619
1918	..	101,793,700	21,409,710	3,695,772,100	138,521,491
1919	..	162,665,500	33,911,554	3,528,756,500	178,955,943
1920	..	147,432,400	47,585,814	4,760,000,000	315,717,631
1921	..	145,894,900	23,924,879	3,038,246,200	137,132,298
1922	..	201,953,000	26,474,623	4,312,667,000	142,436,751
1923	..	145,017,400	21,010,689	4,323,865,600	138,251,864
1924	..	163,056,400	27,782,126	4,585,096,400	153,448,106
1925	..	189,531,200	30,501,410	4,636,720,200	150,627,835
1926	..	168,526,800	21,781,178	3,922,796,700	116,052,953
1927	..	200,464,700	23,608,368	4,189,109,600	109,995,715
1928	..	169,206,900	22,566,494	3,968,198,300	107,298,462
1929	..	166,637,700	20,753,279	3,764,852,400	99,263,987
1930	..	136,987,500	14,469,350	2,490,549,400	61,305,421
1931	..	133,516,300	10,895,216	1,790,233,800	37,327,672
1932	..	141,463,100	10,419,740	2,302,687,300	43,614,893
1933	..	135,111,400	10,075,995	2,116,720,000	40,234,252
1934	..	130,425,700	10,236,383	2,067,471,000	39,821,860

AVERAGE PRICES FOR YARN AND CLOTH EXPORTS

(Compiled from Board of Trade Returns)

				Yarn		Cloth	
				per lb. d.	taking 1913 as 100	per lin. yd. d.	taking 1913 as 100
1913	..	..	..	17.141	100.0	3.316	100.00
1914	..	..	..	16.096	93.90	3.313	99.90
1915	..	..	..	13.152	76.72	3.269	98.58
1916	..	..	..	18.722	109.22	4.054	122.25
1917	..	..	..	30.115	175.68	5.436	163.93
1918	..	..	..	50.477	294.48	8.995	271.26
1919	..	..	..	50.033	291.89	12.171	367.03
1920	..	..	..	77.463	451.91	15.918	480.03
1921	..	..	..	39.356	229.60	10.832	326.65
1922	..	..	..	31.462	183.54	7.926	392.03
1923	..	..	..	34.772	202.85	7.673	231.39
1924	..	..	..	40.892	238.56	8.032	242.21
1925	..	..	..	38.623	225.32	7.796	235.10
1926	..	..	..	31.018	180.95	7.100	214.11
1927	..	..	..	28.264	164.89	6.301	190.01
1928	..	..	..	32.007	186.72	6.489	195.68
1929	..	..	..	29.889	174.37	6.327	190.80
1930	..	..	..	25.350	147.89	5.907	178.13
1931	..	..	..	19.584	114.25	5.003	150.87
1932	..	..	..	17.670	103.08	4.545	137.06
1933	..	..	..	17.897	104.41	4.562	137.58
1934	..	..	..	18.836	109.88	4.622	139.38

ITALY.

INDEX OF ACTIVITY. COTTON SPINNING.

Year	Jan.	Feb	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1929	105.60	101.18	104.09	104.81	110.36	109.06	104.55	93.74	106.72	108.48	108.50	99.90	104.71
1930	105.91	106.18	101.13	96.43	90.88	83.53	80.65	66.29	81.89	83.80	86.08	79.20	88.58
1931	82.11	80.44	80.01	74.50	80.19	79.38	77.46	71.50	83.98	85.38	86.15	82.32	80.29
1932	82.16	83.92	80.80	86.07	88.00	84.37	78.90	64.89	83.85	87.58	90.67	89.88	83.67
1933	92.80	94.06	95.69	91.28	98.16	98.48	94.42	77.41	97.34	99.40	102.27	94.94	94.63
1934	96.24	94.07	94.38	92.12	91.12	84.61	78.49	64.82	81.61	85.06	85.56	—	—

INDEX OF ACTIVITY. COTTON WEAVING.

1928 = 100

Year	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1929	98.50	99.04	104.34	105.69	111.65	110.99	110.24	97.39	109.38	108.47	106.73	100.94	105.28
1930	99.17	101.35	99.47	96.60	89.55	85.01	79.24	67.06	75.14	79.35	78.84	78.09	85.75
1931	74.09	77.55	75.67	75.05	75.31	75.97	74.50	67.87	77.00	76.68	77.08	71.19	74.91
1932	74.99	77.36	78.39	78.30	77.36	76.87	73.07	62.88	75.16	90.53	79.73	79.99	76.18
1933	81.02	84.31	85.34	83.01	85.29	87.32	85.36	70.69	84.89	88.76	84.74	88.20	83.66
1934	82.77	82.24	86.85	85.27	85.40	70.50	74.80	58.98	74.35	78.07	79.18	—	—

(Ministero delle Corporazioni).

MISCELLANEOUS

The Japanese Rayon Industry.

Production of rayon yarn by the Japan Rayon Association totalling 36,115,760 lbs. for the third quarter exceeded production of the preceding three months by 452,310 lbs., and was 11,963,160 lbs. (or 45 per cent.) larger than the output for the September quarter of 1933. Nevertheless the very rapid increase noted during the first half of 1934 appeared to have subsided and the industry during the third quarter levelled off the mounting curve of production, without, however, losing the ground already gained. Production by deniers follows:—

Rayon yarn	Jan.-Mar. lbs.	Apr.-June lbs.	July-Sept lbs.
100-denier or finer	483,760	501,560	662,610
120-denier	18,939,010	24,728,190	24,667,290
150-denier	6,540,540	6,910,770	6,809,050
200-denier and coarser	2,740,850	3,522,930	3,976,810
Total	<u>28,704,160</u>	<u>35,663,450</u>	<u>36,115,760</u>

NOTE—The system of numbering rayon is the same as that used in numbering silk. The denierage of yarns represents the weight in deniers (denier = 5 centigrams) of a given length (450 metres).

Production for the first nine months of 1934 of the Japan Rayon Association and the few mills outside the Association approximate 105,000,000 lbs., compared with 64,499,800 lbs. for the corresponding period of 1933 and 46,179,900 lbs. for January-September, 1932. The industry continued its plans for expansion, and new mills were placed in operation or definite projects were formulated for their erection. It is considered certain, however, by informed observers that, sooner or later, the industry will be confronted with the problem of overproduction, to be solved either by price cutting or autonomous control of production by the industry.

Exportation of both rayon yarn and rayon cloth during the third quarter was somewhat smaller than during the preceding three months, owing largely to the effects of the typhoon of September 21, which destroyed essential chemical plants, hindered the supply of electric power, and demoralized export shipments at the port of Osaka for a considerable period. The typhoon also affected the market, and rayon prices during the third quarter fell somewhat below the average for the second quarter. The possibility of overproduction, however, was a factor in depressing prices.

Exports of rayon yarn during the third quarter of 1934 totalled 4,886,858 lbs., with a value of 4,944,317 yen (about \$1,483,295)—the lowest exportation for any quarter this year. The exports

for the March quarter amounted to 5,745,882 lbs., and for the June quarter 5,688,000 lbs., a total of 11,433,882 lbs., valued at approximately 11,744,183 yen (\$3,523,255). The principal destinations of rayon yarn exports during the three quarters were:—

Country	First Quarter, 1934 1,000 lbs.	Second Quarter, 1934 1,000 lbs.	Third Quarter, 1934 1,000 lbs.
Kwantung Leased Territory	2,766	2,398	1,008
British India	2,303	2,212	1,884
Hong Kong	140	243	1,078
China	303	40	20
Other Asia	57	315	255
Africa	2	43	32
Central America	151	396	547
South America	3	2	12
Germany	—	27	33
Australia	18	9	5

Rayon yarn imports into Japan dwindled to insignificant proportions during the first nine months of 1934. Imports declined from 591,899 lbs., valued at 614,403 yen in January-September, 1933, to only 44,711 lbs., valued at 80,441 yen in the first nine months of 1934. (The average exchange value of the Japanese yen was \$0.24 and \$0.30 in the nine months of 1933 and 1934 respectively.)

The total production of rayon cloth during the first nine months of 1934 was valued at 105,134,000 yen, an increase of 24 per cent., as compared with the value of output for the corresponding 1933 period. The quantity produced during the current year is estimated at 297,000,000 to 300,000,000 square yards.

The average spot price of the 120-denier rayon yarn during the third quarter of 1934 was 97.12 yen (about \$20.14), compared with 106.03 yen for the preceding three months. Prices of piece goods were also slightly lower during the third quarter. A concomitant of this expansion of output has been large profits realised by the Japanese rayon mills. The financial condition of the principal producers of rayon yarn in Japan for the first six months of 1934 was analysed in the October 28 issue of the *Japan Advertiser*, which showed that eight companies, with a paid-in capital of 116,825,815 yen, reported a gross profit of 16,976,438 yen, or an annual rate of 29 per cent.

(U.S. Department of Commerce.)

COLONEL H. G. HESTER.

The cotton trade, not only of the United States but of the entire world, will regret the passing of Colonel H. G. Hester, Secretary Emeritus of the New Orleans Cotton Exchange, to which body he served as Secretary from 1871 to 1932. Col. Hester, who died on December 20 last, having attained the ripe old age of 88, was known and respected far and wide for the cotton statistical service which he founded sixty years ago, the arrangement and perfection of which has been his lifelong task. The success which has attended his efforts bears eloquent testimony to the memory of the "Grand Old Man" of the United States Cotton Trade.

EFFECTS OF OTTAWA AGREEMENT ON WEST INDIES HOSIERY TRADE.

Repercussions of the Ottawa Agreement have manifested themselves in the British West Indies, where, according to a report published recently by the Department of Overseas Trade, a great change has taken place in the distribution of the trade in cotton and artificial silk hosiery. As recently as 1932 in the case of cotton hosiery the U.S.A. contributed half the total imports into Trinidad and Japan was well ahead of the United Kingdom. A preference of 6s. per doz. pairs as provided for by the Ottawa Agreements has eliminated foreign competition and the trade formerly enjoyed by Japan in the cheaper lines has gone to Hong Kong factories while the United Kingdom and Canada are the only other sources of supply of importance. Cotton socks made in Hong Kong are retailed in Trinidad for as little as 4d. a pair, the average c.i.f. value of imports in 1933 working out at 2.8d. per pair, as compared with 6.25d. per pair for imports from the United Kingdom.

MR. GEORGE SLOAN RESIGNS.

Mr. George A. Sloan, President of the American Cotton Textile Institute, has resigned his post. The resignation takes effect from January 1, 1935. Mr. Sloan is to retain his position as chairman of the American cotton textile code authority. Mr. G. H. Dorr has been appointed temporary head of the Cotton Textile Institute.

Mr. Sloan resigned from both his positions last summer, but his resignation was not accepted at the time. According to American press reports, Mr. Sloan will not give any reasons for his action.

AHMEDABAD STRIKE SETTLEMENT.

On the eve of going to press we learn that the long-standing wage dispute in Ahmedabad cotton mills has, by the intervention of Mr. Gandhi, been very amicably and satisfactorily settled. The dispute is referred to on page 257 of this issue. Under the present settlement there will be a uniform reduction of 6½ per cent. in the earnings of all time and piece workers, to be applied so as not to bring earnings down below 41½ rupees (roughly 62s.) for 26 working days on a 10-hour basis.

It is proposed further to standardise the wages from January 1, 1936, without involving any cut or increase, and the parties must meet and try to evolve a scheme for automatic adjustment of wages. Rationalisation, if any, should be carried out without imperilling the health of the workers and creating unemployment, and certain safeguards for workers are adopted. A joint committee of the Millowners' Association and the Labour Union will be appointed to supervise and regulate the working of the rationalisation scheme.

Reviews on Current Cotton Literature.

"THE EMPIRE COTTON-GROWING REVIEW," January, 1935. Published quarterly by P. S. King & Son Ltd., 14, Great Smith Street, London, S.W.1., for the Empire Cotton-Growing Corporation.

Of especial interest in our current issue of the *Review* are the following articles:—

- (1) A general description of the work of the British Cotton Industry Research Association at the Shirley Institute, by Dr. R. H. Pickard.
- (2) Cotton Cultivation in Cyprus; by A. Pitcairn.
- (3) Some Factors affecting the Gezira Irrigation Scheme; by R. Hewison.
- (4) Drainage in the Sudan Gezira; by Dr. W. L. Balls.

"THE COTTON YEAR BOOK OF THE NEW YORK COTTON EXCHANGE, 1934." Prepared under the direction of Alston H. Garside, Economist of the Exchange.

This, the seventh year-book issued by the New York Cotton Exchange, is, like the issues which have preceded it, extremely valuable to cotton men by virtue of the mass of essential statistical facts, relating not only to American cotton, but also to outside growths as well. The tables given here have been compiled with a view to presenting a complete picture of the world supply and world distribution of all kinds of cotton, together with data indicating economic factors which affect the world cotton trade and influence the market value of American and foreign cottons.

"INDIAN COTTON FACTS, 1934." This most valuable publication, compiled by the cotton department of Toyo Menka Kaisha Ltd., of Bombay, and now in its fifteenth year of issue, has again made its appearance and maintains fully the excellent high standard of its predecessors. Carefully prepared tables are given relating to the Indian cotton crops, acreage, receipts, exports, prices, yarns and piece goods, and the Indian mill industry generally.

"CREDIT AND INTERNATIONAL TRADE." By Barnard Ellinger, C.B.E. Published by Macmillan & Co. Ltd., St. Martin's Street, London. Price 8s. 6d. net.

Perhaps no book has ever come our way which puts in so simple and understandable a form the complexities and ramifications of international trade as Mr. Ellinger's book. When one considers the

age in which we live, and the way in which modern economists give vent to their ideas by means of intricate and complicated arguments and lengthy expositions, one feels that the author is worthy of congratulation upon having dared to treat such a subject in so simple a manner. And yet he has done so in such a way as to make his subject thoroughly interesting, even amusing in parts.

The author portrays how, from the first stages of production until the commodities are finally consumed, they are carried round the world on an endless belt of credit. Transactions originating with the growth of cotton in the United States and ending with the export from China of pigs bristles to the United States in payment of the cotton, are followed out after involving intermediate transactions all round the world. The treatment is vivid and yet thoroughly scientific, and the value of the book to the student is enhanced by the reproduction of the actual credit instruments created in the course of the transactions described.

"THE BRITISH AND DOMINION TEXTILE INDUSTRY, 1935." Printed and published by John Worrall Ltd., Oldham. Price 12/6 post free; abroad, 14/6 net.

Those who are familiar with the work will need no introduction to this, the 45th annual edition. For the benefit of those of our readers to whom this publication is new, we would add that it is one of the best known amongst the directories, covering as it does the hosiery, lace and kindred trades in the United Kingdom (excluding Lancashire and Yorkshire, for which separate directories are published), the Irish Free State, and the Dominions of Australia, Canada, New Zealand and Tasmania. The book contains details of the spinners, manufacturers, bleachers, dyers and finishers of silk, rayon, cotton, wool, linen, flax, hemp and jute in all the countries mentioned above, and is fully indexed and classified.

"CONDITIONS AND PROSPECTS OF UNITED KINGDOM TRADE IN INDIA (1933-34)." Report by Sir Thomas M. Ainscough, C.B.E., H.M. Senior Trade Commissioner in India and Ceylon. Printed and published for the Department of Overseas Trade by H.M. Stationery Office. Price 4/- net.

Sir Thomas M. Ainscough, C.B.E., Senior Trade Commissioner for India, in his annual report on the conditions and prospects of United Kingdom trade with India, sounds a note of optimism for the cotton trade in the near future. The following extract from the report is published below:—

"Stocks of Lancashire goods are at a very low ebb and dealers are showing indications of a desire to revert to their old suppliers, whose methods of business they understand, and who may be relied upon not to flood the market with goods at lower and lower prices,

thereby completely dislocating the price level and rendering the business profitless for the distributor. During the month of May, 1934, there were distinct signs of some revival in Lancashire goods. Orders were placed in Calcutta for qualities of dhooties and white nansooks which had been off the market for years and a moderate volume of forward business for November/December/January shipment was transacted. This would have been much greater but for the stiffening of Lancashire quotations as a result of efforts to improve margins.

The stage is set for a moderate revival so soon as Indian purchasing power begins to rise. Although Indian mill competition is cutting into the market in an ever-widening range of fabrics, the Indian mills cannot as yet provide the variety of qualities, designs, colours and styles which consumers like to have if only they can afford to pay for them. In times of intense agricultural and industrial depression such as the past four years, the Indian consumer has been obliged to substitute the cheaper, coarser, less attractive fabric made in India for the finer imported article which he has been in the habit of purchasing. It is not too much to expect that, as the prices of primary commodities rise, thereby releasing purchasing power, we shall see a broadening of the demand for Lancashire staples of the finer qualities and for fancy styles.

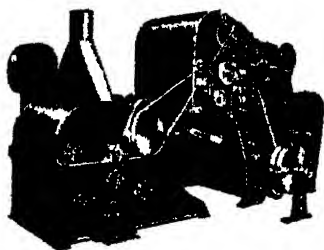
It is doubtful whether the trade will ever attain the volume of the pre-slump year of 1929-30 (roundly 1,500 million yards of United Kingdom goods), but there is no doubt that the present volume of less than 600 million yards is abnormally low. Given a spell of economic prosperity in India, with settled political conditions and no attempt to penalise United Kingdom goods by prohibitive import duties, we may easily see United Kingdom shipments rise to 1,000 million yards within a very few years."



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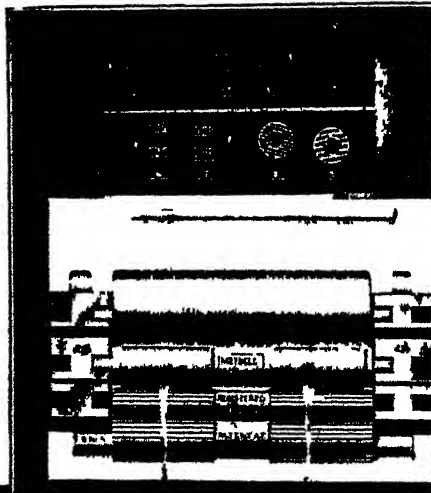
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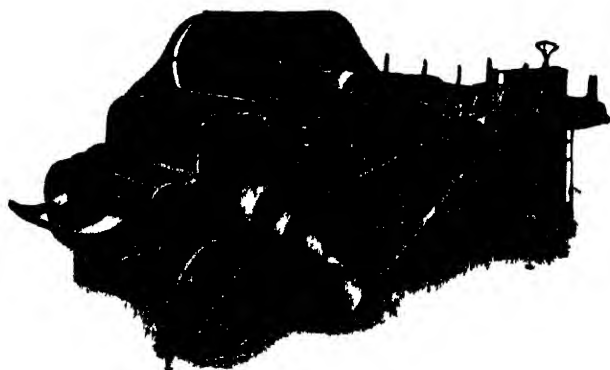
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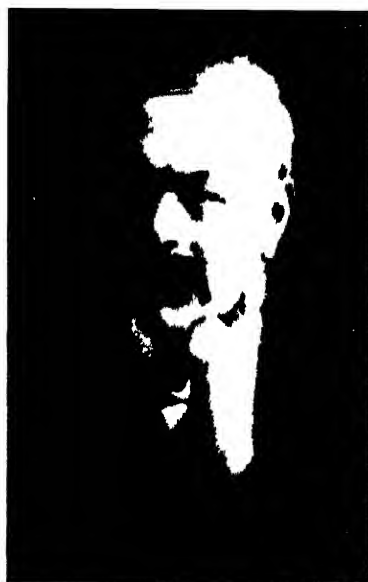


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INTERNATIONAL COTTON BULLETIN

No. 51. Vol. XIII, 3.

April, 1935.

Published quarterly by the International Federation of Master Cotton Spinners and Manufacturers Associations, Manchester Edited by N S Pearce, General Secretary, Manchester The Committee of the International Federation of Master Cotton Spinners and Manufacturers Associations do not hold themselves responsible for the statements made or the opinions expressed by individuals in this Bulletin Subscription £1 0 0 per annum

THE LIFE

Dr. Giorgio Mylius

(ITALY)

IT came as a great shock to all connected with the International Cotton Federation when they heard of the death of Dr Mylius of Italy, which took place with startling suddenness during March

Although he had passed middle life, his activity in business matters suggested that the years had fallen lightly upon his shoulders

Such, however, was not the case Like others, Dr Mylius had borne his share of the worries and anxieties attending his association with the cotton trade of Italy

As recently as February, in Paris, he took a prominent part in the proceedings of the Sub-Committee which had been entrusted with the duty of organising the International Cotton Congress to be held in Milan and Rome in April-May next

He eagerly anticipated its success, the actual fruition of which he has been deprived by nothing short of a tragedy

It was in 1910 that Dr Mylius succeeded the late Baron Costanzo Cantoni, as representative of Italy on the International Cotton Committee

Of the personnel of the Committee at that time only one remains—our highly esteemed colleague and friend, Mr John Syz of Switzerland,

in addition to Mr. Arno S. Pearse, then Secretary, and now Adviser to the Committee.

For over a quarter of a century Dr. Mylius gave of his best for the benefit of the International Cotton Federation of which he was joint Treasurer. His diligence and intelligence were worthy of all praise.

The sympathy of the Committee and indeed of all concerned with the organisation is extended to his family and the Italian Association, in the irreparable loss they have sustained by the untimely death of one whose services as a leader in the commercial and industrial world were not only recognised, but fully appreciated.

JOHN POGSON.

COMMITTEE'S COMMUNICATIONS.

THE MILAN - ROME CONGRESS

APRIL 29th—MAY 4th, 1935.

As this issue of the BULLETIN goes to press final preparations for the XVII International Cotton Congress are now almost complete. Over 200 delegates from countries other than Italy will be converging upon Milan, the chief Italian cotton textile centre, where they meet on Monday, April 29, to view the Textile Testing House. The delegates leave Milan on the following day by special train for Genoa, where they embark on the "S.S. Conte di Savoia" for Naples. From Naples the delegates are due to arrive in Rome on Wednesday evening by special train.

The Congress proceedings, which will be presided over by On. Avv. Professor Gino Olivetti, open on Thursday, May 2, and will continue until Saturday, May 4.

The subjects chosen for discussion are as follows:—

- (1) Yarn Conventions and Price Agreement Schemes. Report by Special Sub-Committee on its examination of various Schemes.
- (2) The Effect of the Price of Silver upon the World's Cotton Trade.
- (3) Egyptian Cotton subjects:—
 - (a) Universal Standards for Egyptian Cotton.
 - (b) Closer Co-operation between the Producer and the Spinner.
 - (c) Cotton versus Jute as a Bale Covering.
 - (d) Law relating to the Marking of each Variety on each Bale.
 - (e) Steps taken in Egypt towards the Improvement of Cotton.

- (4) The Position of American Cotton in the World To-day.
- (5) Nett Weight Cotton Contract.
- (6) The Qualities in Cotton Required by the Spinner.
- (7) Fibres Complementary to Cotton.
- (8) Impediments to International Commerce and Means to Overcome These.
- (9) South American Cottons.
- (10) Recent Inventions in Cotton Textile Machinery.

The United States Department of Agriculture has agreed to send to the Congress Hall in Rome two bales of American cotton specially marked in accordance with the resolution* adopted by the International Cotton Congress held in Prague and Karlsbad two years ago with the object of obtaining the views of cotton spinners upon this suggested innovation.

An exhibition of new varieties of Egyptian cotton will also be staged by the Egyptian Ministry of Agriculture. A representative from that Department will be in attendance.

The official time table is as follows:—

SUNDAY, APRIL 28.

The day to be devoted to meetings of the JOINT EGYPTIAN COTTON COMMITTEE, at the Offices of the Italian Cotton Association, Via Borgonuovo 11, Milan.

MONDAY, APRIL 29.

An organized visit will be made at 10-30 to the R. Stazione Sperimentale per le Industria della Carta e delle Fibre Tessili Vegetali (Royal Experimental Station and Testing House for the Paper and Vegetable Fibre Industries).

International Cotton Committee Meeting in the afternoon. If necessary, Meeting of Joint Egyptian Cotton Committee during the course of the evening.

Reception of all Congress delegates by the Mayor of Milan, in the Town Hall, at 6 p.m.

TUESDAY, APRIL 30.

Leave Milan by special train at 8 a.m., from the Central Station for Genoa, arrive at the Maritime Station, Genoa, at 11-30. Embarkation on board the "Conte di Savoia." Lunch on board at 1 p.m.

Banquet offered on board to all delegates and ladies by the Italian Cotton Association at 8 p.m., to be followed by a ball.

* Resolution *re* False Packed Cotton.

WEDNESDAY, MAY 1.

7 a.m. Arrival in Naples. All delegates must disembark, not later than 8-30, as the boat is due to sail for the United States the same day. A Reception and Excursions are being arranged by the City of Naples.

Late Afternoon A special train will convey the delegates to Rome. Time of departure will be communicated to the delegates on board the "S.S. Conte di Savoia."

THURSDAY, MAY 2.

10-30 a.m. Inaugural Reception and Official Opening of the Congress.

2-30 p.m. First Session of the Congress.

FRIDAY, MAY 3.

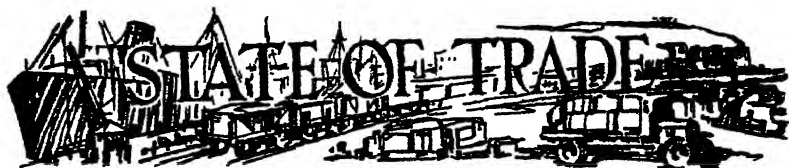
9-30 a.m. Second Session of the Congress.

2-30 p.m. Third Session of the Congress.

SATURDAY, MAY 4.

10 a.m. Final Session of Congress. Resolutions.
Close of Congress.





AUSTRIA.

SPINNING SECTION.

The degree of occupation in the spinning section for the last month for which we have statistical information, that is, the month of January, was retrogressive, as the reporting spindles only showed 77.7 per cent. in work as against 81 per cent. in December, 1934, 79 per cent. in November, 1934, and 80 per cent. in October, 1934. These figures refer to single-shift working.

The Egyptian Section shows a decided reduction, as in January the degree of occupation was 16½ per cent. smaller than in the previous month. The statistical position also shows no improvement for the yarn stocks at the end of January were 17.3 per cent. higher than at the end of December, 1934.

The cotton yarn trade for the period under review was as follows:—

IMPORTS OF COTTON YARN

					Dec., 1934, and Jan., 1935 Quintals		Dec., 1933, and Jan., 1934 Quintals
Grey	..	..	..	..	3,179	..	1,377
Bleached	..	..	..	..	449	..	373
Dyed	..	..	..	..	386	..	251
Total	..	..	..	..	4,014	..	2,001

EXPORTS OF COTTON YARN

					Dec., 1934, and Jan., 1935 Quintals		Dec., 1933, and Jan., 1934 Quintals
Grey	..	..	..	..	14,782	..	10,859
Bleached	..	..	..	..	1,117	..	1,692
Dyed	..	..	..	..	331	..	240
Total	..	..	..	..	16,230		12,791

What developments are likely to occur in the business position in the near future it is quite impossible to say. In any case they seem very uncertain, especially in view of the fact that exports of cotton yarn must be taken into consideration.

WEAVING SECTION.

The situation during the last few months has been comparatively satisfactory, although a reduction in price levels has taken place. Endeavours to come to an agreement upon the regulation of production and stocks have been made, but so far have not been satisfactory.

The imports of cotton goods during December, 1934, and January, 1935, as compared with the same months of the previous years, are as follows:—

					Dec, 1934, and Jan., 1935 Metric quintals	Dec, 1933, and Jan, 1934 Metric quintals
Grey	..	..	..	..	3,347	3,150
Bleached	..	..	..	..	305	268
Dyed	..	..	..	..	322	280
Prints	..	..	..	..	196	124
Coloured woven	..	..	..	..	487	360
Total	..	..	..	..	4,657	4,182

Even in the weaving section it is very difficult to foresee business possibilities in the near future, although there are indications of a backward movement in the receipt of orders and for a further intensification of competition in prices and conditions in this section.

The original report in German follows:—

BAUMWOLLSPINNEREI.

Die Beschäftigung der Spinnereien war im letzten Monat, für welchen das Ergebnis der statistischen Erhebungen vorliegt, d.i. im Monat Jänner, rückläufig, da von den beteiligten Spindeln in einer Schichte nur 77.7 % in Betrieb waren, gegenüber rund 81 % im Dezember, 1934, und 79 % bzw. 80 % in den Monaten November und Oktober, 1934. Einen besonders starken Rückgang hatte die Erzeugung von Makogarnen zu verzeichnen, welche im Jänner um 16½ % geringer war als im vorausgegangenen Monat. Auch die statistische Lage zeigt eine Verschlechterung, indem die Garnvorräte per Ende Jänner um 17.3 % höher waren als am 31./XII, 1934.

Was die Aussenhandelsbewegung in Baumwollgarnen anbelangt, so hat sich dieselbe wie folgt gestaltet:—

EINFUHR VON BAUMWOLLGARNEN

					Dez. 1934 u. Jänner 1935 q.	Dez. 1933 u. Jänner 1934 q.
Roh	..	..	..	..	3,179	1,377
Gebleicht	..	..	..	..	449	373
Gefärbt	..	..	..	..	386	251
Zusammen	..	..	..	..	4,014	2,001

AUSFUHR VON BAUMWOLLGARNEN

					Dez. 1934 u. Jänner 1935		Dez. 1933 u. Jänner 1934
					q.		q.
Roh	..	..	..	..	14,782	..	10,859
Gebleicht	..	..	..	..	1,117	..	1,692
Gefärbt	..	..	..	..	331	..	240
Zusammen	..	..	..	..	16,230		12,791

Was die Aussichten für die Entwicklung der Geschäftslage in der nächsten Zukunft anbelangt, so sind dieselben überaus unsicher, zumal mit einem namhaften Ausfall im Export von Baumwollgarnen gerechnet werden muss.

BAUMWOLLWEBEREI.

Die Beschäftigungslage war in den letzten Monaten eine verhältnismässig zufriedenstellende, doch hat sich der Rückgang im Preisniveau fortgesetzt, so dass die Rentabilitätsverhältnisse überaus unbefriedigende geworden sind. Die Bemühungen, zu Vereinbarungen über die Regelung der Erzeugung und des Absatzes zu gelangen, sind bisher erfolglos geblieben. Die hat sich im wie folgt gestaltet:—

EINFUHR VON BAUMWOLLGEWEBEN

					Dez. 1934 u. Jänner 1935		Dez. 1933 u. Jänner 1934
					mq.		mq.
Roh	..	..	..	..	3,347	..	3,150
Gebleicht	..	..	..	..	305	..	268
Gefärbt	..	..	..	..	322	..	280
Bedruckt	..	..	..	..	196	..	124
Buntgewebt	..	..	..	..	487	..	360
Zusammen	..	..	..	..	4,657		4,182

Auch bezüglich der Webindustrie lässt sich keine verlässliche Prognose für die Geschäftsentwicklung der nächsten Zeit aufstellen, doch bestehen jetzt schon Anhaltspunkte für einen Rückgang des Auftragseinlaufes und für eine weitere Verschärfung des Wettbewerbes auf dem Gebiete der Preise und Konditionen.

(Verein der Baumwollspinner und Weber Oesterreichs.)

BELGIUM.

At the end of the year 1934 exports of cotton goods amounted to 21,700,000 kg., as against 21,800,000 in 1933 and 440,000,000 kg. in 1929.

As mentioned in our previous report the spinning industry has made a united effort in order to recover some of our foreign markets. The exports for yarn amounted to 8,700,000 kg. in 1934 against 5,300,000 in 1933 and 6,900,000 kg. in 1929.

This return to activity in the export trade has, however, been a passing phase. The blockade of quotas in the countries which are our largest customers have brought trade to a standstill.

Various circumstances have occurred recently and aggravated the situation of the Belgian cotton industry in such a way that for a few days trade was partly suspended. These were the rapid variation of prices in the cotton market, the ministerial crisis and the uncertainty in regard to the monetary position of the country; measures taken by the Government to prevent speculation—measures which have worked against the normal operation of spinning mills.

Two small spinning mills have been completely scrapped. The machinery has been taken away to be destroyed. It is expected that there will be further similar liquidations.

The organization of the cotton-spinning industry has been remodelled and enlarged. A new association has been created under the title of Association Belge des Filateurs de Coton.

This Association, which comprises about 95 per cent. of the spindles, will take over the activities of the Association Cotonnière de Belgique and will study problems of interest to spinners as a whole.

Since the month of January there have been no alterations in wages paid to the operatives either in the spinning or the weaving sections in the Ghent region.

The following is the original report in French:—

Au cours de l'année 1934, les exportations du tissage se sont élevées à 21,700,000 kg. contre 21,800,000 kg. en 1933 et 44,000,000 kg. en 1929.

Ainsi que nous l'avons dit dans notre rapport précédent, la filature a fait un gros effort pour retrouver quelques débouchés à l'étranger. Ses exportations se sont élevées à 8,700,000 kg. contre 5,300,000 kg. en 1933 et 6,900,000 kg. en 1929.

Ce regain d'activité à l'exportation n'a eu malheureusement qu'un caractère passager. Le blocage des devises dans des pays qui étaient de gros clients, y a mis fin.

Diverses circonstances sont venues récemment déprimer davantage la situation de l'industrie cotonnière belge au point de paralyser momentanément les transactions: ce sont les brusques des cours du coton; la crise ministérielle et l'incertitude quant au statut monétaire du pays; les mesures prises par le Gouvernement pour enrayer la spéculation—mesures qui ont entravé les opérations normales des filatures.

Deux petites filatures ont été complètement liquidées. Le matériel a été enlevé et cédé à des tiers moyennant destruction de broches anciennes. On s'attend à d'autres liquidations analogues.

L'organisation des filateurs a été remaniée et élargie: un nouveau groupement a été créé sous le nom d'Association Belge des Filateurs de Coton.

Cette Association—qui groupe environ 95 pour cent. des broches, reprendra les activités de l'Association Cotonnière de Belgique et se chargera d'étudier les problèmes intéressant l'ensemble des filatures.

Depuis le mois de janvier, on n'a pas enregistré de modifications

dans les salaires payés aux ouvriers des filatures et des tissages de la région gantoise.

PRODUCTS OF THE TEXTILE INDUSTRY.

		Tons		000's Francs	
		Imports	Exports	Imports	Exports
1928	..	49,538	153,438	2,015	4,491
1929	..	50,836	147,312	2,190	4,173
1930	..	53,988	130,138	1,880	3,423
1931	..	44,653	125,777	1,407	2,946
1932	..	32,038	88,624	885	1,607
1933	..	36,956	104,334	838	1,681
1934	..	37,058	118,895	723	1,547

(*Bulletin des Sciences Economiques.*)

CANADA.

The textile industry was in a fairly satisfactory position throughout 1934, according to trade reports. Unfilled orders carried over from 1933, and exceptionally good demand for all classes of textiles in the first half of 1934 resulted in increased operating schedules throughout the industry. Some slackening was noted in the last half of the year, when forward buying was hesitant and British textiles were able to compete more advantageously because of favourable exchanges. The cotton manufacturing industry suffered the most from the increased British competition in the latter part of 1934. Imports of cotton manufactures from the United Kingdom increased about one-third in value as compared with 1933. In wool manufactures British gains apparently have been at the expense of other foreign suppliers rather than domestic manufacturers, who supplied about 56 per cent. of the country's requirements in 1934 as against 22 per cent. in 1930, according to trade estimates. The British share declined from 58 per cent. in 1930 to 42 in 1934, and the proportion supplied by other countries dropped from 20 per cent. to about 2 per cent. (*U.S. Department of Commerce.*)

CHINA.

Japanese-owned mills at Shanghai operated at nearly full capacity during December, 1934, when Chinese-owned mills were running at about 80 per cent. of capacity. An important Chinese mill with 50,000 spindles ceased operations during December, and further curtailment of activity was expected in Chinese-owned mills after the Chinese New Year in early February. Japanese-owned mills may reduce operations to a small extent at Shanghai, but there may be some increase of activity in Shantung. A new Japanese mill is being built in Tsintao.

(*U.S. Department of Agriculture.*)

A group of Chinese cotton mills with 68,000 spindles closed January 11. Chinese cotton mill owners have petitioned the National Government to prohibit speculation on cotton goods exchanges in order to stabilize prices, which they claim are below production costs of Chinese mills.

(*U.S. Department of Commerce.*)

Chinese cotton mill activity during the first two months of 1935 has, on the whole, been unfavourable, and an uncertain tone still prevails. During January and February Chinese mills operated at about 70 per cent. of their capacity, while Japanese mills in China operated at about normal capacity. The British-owned mills were closed, due to labour trouble. The continued low price of yarn and the restriction on credits caused by the stringent condition in the local money market, have contributed to the generally unfavourable plight of the Chinese mills. It is estimated that many mills are losing on every bale of yarn they sell. While the price of locally-grown cotton declined during February, the price of yarn also declined, resulting in a further unfavourable relation of cotton prices to yarn prices.

Arrivals of locally-grown cotton at Shanghai during February showed a marked decline when compared with January. Imports of foreign cotton for January (in bales of 500 lbs.) were 14,964 bales of American, 6,250 bales of Indian, 5,782 bales of Egyptian, and 8 bales of other growths. The preliminary estimates of arrivals at Shanghai for February are: American, 10,548 bales; Indian, 1,481 bales; and Egyptian, 2,903 bales. Stocks in Shanghai warehouses on February 28 were reported at 253,000 bales, of which 81,000 bales were American, 4,000 bales Indian, 2,000 bales Egyptian, and 166,000 bales local cotton.

(Foreign Crops and Markets.)

CZECHO-SLOVAKIA.

The dissolution of the Czecho-Slovakian cotton spinning mills' price and quota agreement at the end of January this year has caused the position of the mills to become exceedingly unfavourable. The prices of yarns dropped very heavily immediately after the price agreement was cancelled, and have declined still further with the fall in the price of cotton. Spinning margins have consequently become insufficient.

As a result of these low prices, exceptionally large quantities of yarn have been sold, and the weaving mills have thus covered their requirements for several months.

There is still no improvement to be reported in the degree of activity in the spinning section; however, it is expected that the position in this respect will, during the next few weeks, be ameliorated.

The export of cotton yarns and goods during January receded to about half of the quantity exported in December. The export of yarns has been particularly affected.

The following is the original report in German:—

Durch die Auflösung des Preis- und Kontingentierungsübereinkommens der csl. Baumwollspinnereien Ende Jänner d.J. ist die Lage derselben ausserordentlich ungünstig geworden. Die Garnpreise sind sofort nach Auflassung der Preisbindung sehr stark zurückgegangen und sind mit dem Rückgang der Baumwollpreise noch weiter gesunken. Die Spinnmarge ist daher ganz unzulänglich geworden.

Infolge dieser billigen Preise sind im Feber und März ausserordentlich viel Garne verkauft worden und haben sich die Webereien damit auf mehrere Monate eingedeckt.

Im Beschäftigungsgrad der Spinnereien ist vorläufig noch keine Besserung zu verzeichnen, doch ist in der nächsten Wochen mit einer etwas besseren Kapazitätsausnützung zu rechnen.

Der Export von Baumwollgarnen und -Waren ist im Jänner auf ungefähr die Hälfte der Dezembermenge gesunken. Insbesondere hat der Export von Garnen sehr gelitten.

(Hospodarský Svaz, Čsl. Prádelen Bavlňy.)

ENGLAND.

SPINNING SECTION.

Trading conditions show little change compared with the previous quarter, and employment continues unfavourable. Many mills are indefinitely closed, whilst active mills are engaged on practically a 75 per cent. basis of capacity. Price fixing schemes to be supported by legal authority are in course of development in the ring spinning and medium sections of the industry.

A Bill is being proceeded with to give effect to the redundancy proposals which were recently approved by the trade.

MANUFACTURING SECTION.

The state of trade in the manufacturing section shows little change from the preceding six months. The unsatisfactory nature of the demand for cloth at remunerative prices has caused the time worked by the looms to be considerably below capacity, while several sheds have been entirely closed down.

The seasonal demand of the home market has had its effect upon certain firms, but as this demand is restricted to a relatively small section of the industry, it has had little effect upon the output of the industry as a whole. The exporting section is feeling the adverse influence of the keen competition in world markets, and of the resultant depressed price level.

FRANCE.

No improvement in the state of trade in the French cotton industry took place during the first quarter of 1935. On the contrary, the downward movement in the price of American cotton, which took place about the middle of March, had the effect of still further aggravating the situation which was already very acute.

At the end of February the degree of activity in the mills, counting machinery completely stopped in the total amount of short time worked by the remainder of the industry working part time, could be estimated at the most at about 55 per cent. for the spinning section, and 60 per cent. for the weaving section; in other words, these figures do not differ greatly from those published in the last issue of the INTERNATIONAL COTTON BULLETIN. The number of spindles and looms entirely stopped represents roughly 20 per cent. of the machinery in existence in the country.

Reductions in wages to the extent of about 10 per cent. have been effected recently in the cotton districts of the Vosges and of Normandy.

The following is the original report in French:—

Aucune amélioration n'a été constatée au cours du premier trimestre 1935. Au contraire la chute des cours du coton américain survenue au milieu du mois de mars est encore venue aggraver une situation pourtant déjà très mauvaise.

Fin février, le degré d'activité des usines, compte tenu tant de l'outillage complètement arrêté que du chômage pratiqué par l'outillage resté en activité partielle, pouvait être évalué au maximum à environ 55 pour cent pour la filature et 60 pour cent pour le tissage, c'est-à-dire sans grand changement avec les indications données dans le dernier numéro du Bulletin International. Le nombre des broches et des métiers complètement arrêtés représente à peu près 20 pour cent de l'outillage existant.

Des réductions de salaires d'un ordre de grandeur d'environ 10 pour cent ont été réalisées à la fin du trimestre dans les centres cotonniers des Vosges et de Normandie.

IMPORTATIONS ET EXPORTATIONS D'ARTICLES COTONNIERS.

IMPORTS AND EXPORTS OF COTTON GOODS.

	Year	
	1933	1934
A—Importations : (<i>Imports</i>)		
1. Fils de coton (<i>Cotton yarns</i>)	6,463	5,722
2. Tissus de coton et autres articles manu- facturés (<i>Cotton cloth and other manufactured articles</i>)	15,090	11,070
B—Exportations : (<i>Exports</i>)		
1. Fils de coton—Exportations totales .. (<i>Cotton yarns—total exports</i>)	65,291	84,062
Destinations :		
Algérie, Colonies françaises et pays de protectorat (<i>Algeria, French Colonies and protectorates</i>)	15,665	15,992
Marchés étrangers (<i>Foreign markets</i>)	49,626	68,070
2. Tissus de coton et autres articles manu- facturés—Exportations totales .. (<i>Cotton cloth and other manufactured articles—total exports</i>)	428,383	398,310
Destinations :		
Algérie, Colonies françaises et pays de protectorat (<i>Algeria, French Colonies and protectorates</i>)	353,990	348,702
Marchés étrangers (<i>Foreign markets</i>)	74,393	49,608

(*Syndicat Général de l'Industrie Cotonnière Française.*)

GERMANY.**SPINNING SECTION.**

The situation in the Germany cotton spinning industry has not experienced any notable change during the first quarter of 1935.

Enquiries for cotton yarns have remained active as heretofore. The degree of occupation in the mills is, therefore, approximately the same as given in our previous report.

The following is the original report in German:—

Die geschäftliche Lage der deutschen Baumwollspinnerei hat auch im Verlauf des 1. Vierteljahres 1935 eine bemerkenswerte Aenderung nicht erfahren.

Die Nachfrage nach Baumwollgarnen blieb nach wie vor lebhaft. Der Beschäftigungsgrad der Betriebe konnte durchweg auf dem Stand des vorigen Quartals gehalten werden.

(Fachgruppe Baumwollspinnerei der Wirtschaftsgruppe Textilindustrie.)

WEAVING SECTION.

Activity in the weaving section of the cotton industry during the first quarter of 1935 was on the average about the same as at the end of 1934. Enquiries for cotton goods of all kinds was satisfactory. Orders on hand will provide the mills with ample work for the next few months.

BAUMWOLLWEBEREI.

Der Beschäftigungsgrad der Baumwollwebereien konnte im 1. Quartal 1935 im allgemeinen auf der Höhe des Ende 1934 erreichten Beschäftigungsgrades gehalten werden. Die Nachfrage nach Baumwollgeweben aller Art war befriedigend. Der vorhandene Auftragsbestand sichert den Unternehmungen auch für die nächsten Monate ausreichende Beschäftigung.

(Verein Süddeutscher Baumwollindustrieller e.V.)

HOLLAND.**COTTON SPINNING.**

Conditions are still very unsatisfactory and most mills are still working short time. There has been some demand for yarns from Germany, but it has been very difficult to arrange payments. The demand for home trade is practically unchanged, and competition, especially in twofolds, from Belgian mills is very severe.

COTTON MANUFACTURING.

The demand for home trade remains poor in view of the diminishing purchasing power of the public, and there seems no reason for improvement until general conditions alter for the better. The export trade is about the same low level of last year, and in many cases orders have to be refused on account of the poor prices

obtainable. Altogether there is not much change, and the total employment of the weaving mills remains almost unchanged at a very low level.

HUNGARY.

The cotton-spinning mills have approximately 290,000 spindles, which are all active. Following upon the difficulties of obtaining raw cotton and the currency restrictions, etc., the degree of occupation of the spinning mills has fallen during the past few weeks.

The weaving section cannot make use of its full capacity, and as a result many weaving mills have recently taken up the production of other goods, namely, light woollen and half-woollen goods, artificial silk and mixtures. The production of the cotton-weaving mills in 1934 was approximately 10 per cent. higher than in 1933.

The more important import and export figures are given below :

				Imports Quintals		Exports Quintals
Raw cotton	..	..	..	262,000	..	—
Cotton yarn	..	..	..	20,800	..	1,840
Cotton goods	..	..	..	7,800	..	8,600

The greater part of the exports comes under the heading of printed goods.

The following is the original report in German :—

In der Baumwollspinnerei beträgt die Zahl der Spindeln gegenwärtig 290,000, die alle im Betrieb sind. Infolge der Hindernisse der Rohbaumwoll-Beschaffung (Devisenschwierigkeiten, etc.) ist die Beschäftigung der Spinnereien in der letzten Zeit etwas zurückgegangen.

Die Baumwollwebereien können ihre volle Kapazität nicht ausnützen, infolge dessen haben viele Unternehmungen in der letzten Zeit auch die Herstellung inderer Waren (leichte Wollstoffe, Halbwoollstoffe, kunstseidene und gemischte Gewebe) in ihr Fabrikationsprogramm aufgenommen. Die Produktion der Baumwollwebereien im Jahre, 1934, war cca. um 10 % höher, als im Jahre, 1933.

Die wichtigsten Import-Exportdaten der Baumwollindustrie :—

				Einfuhr q.		Ausfuhr q.
Rohbaumwolle	..	..	..	262,000	..	—
Baumwollgarne	..	..	..	20,800	..	1,840
Baumwollgewebe	..	..	..	7,800	..	8,600

Der allergrösste Teil der Ausfuhr entfällt auf bedruckte Gewebe.

(Magyar Textilgyárosok Országos Egyesülete, Budapest.)

ITALY.

During the first quarter of this year the conditions of the Italian cotton industry have shown an improvement on the whole as compared with the conditions which obtained during the same period in 1934.

As a matter of fact the manufacturers have plenty of work and have produced with progressive regularity without increasing their stocks. The prices have increased and so has employment. Wages have remained unchanged.

Considerable difficulties are still experienced in the export business, a business which is absolutely necessary to provide the means for the purchase of raw materials. On January 31, 1935, the record of sales of Italian cotton goods abroad stood at 42,635 quintals, showing a decline of 7,450 quintals as compared with January 31, 1934.

The original report in Italian follows:—

Durante il 1° trimestre di quest'anno le condizioni dell'industria cotoniera italiana, nel complesso, presentano una situazione migliore di quella del corrispondente periodo del 1934.

Infatti le fabbriche sono impegnate di lavoro, ed hanno prodotto con ritmo progressivo e regolare senza aumentare il carico dei magazzini.

I prezzi hanno guadagnato terreno; l'occupazione operaia, ed i salari sono rimasti invariati.

Si sono riscontrate sempre forti difficoltà nel commercio di esportazione che rappresenta la fonte necessaria per l'approvvigionamento delle materie prime. Al 31 gennaio 1935 le vendite all'estero di cotone italiane risultavano di Q.li 42.635 con una differenza in meno di Q.li 7.450 rispetto al 31 gennaio 1934.

(Associazione Italiana Fascista degli Industriali Cotonieri.)

JAPAN.

With the approval of 90 per cent. of the productive capacity of the Japan Cotton Spinners' Association, it has been decided that the curtailment rate (sealed spindles) for the April-June quarter will be raised to 16.2 per cent. (from 11.2 per cent.); in addition there will be the usual four holidays per month. The number of spindles on November 30, 1934, is given as 8,210,000 as compared with 7,039,000 on January 1, 1934.

Japanese cotton yarn production fell from its record figure of 129,000,000 lbs. in November to 128,000,000 lbs. in December and 122,000,000 lbs. in January. The volume of production recently has resulted in a fall in prices and it is reported that sales are being made at a loss. It has been decided to curtail production by a further 5 per cent. in the second quarter. Some anxiety is also being expressed in Japan that there will be over-production of rayon, which last year was 150,000,000 lbs. and this year may reach 200,000,000 lbs., that is, almost double the British production. The greater part of this is being produced for export. The export of Japanese rayon piece goods in 1934 was 345,000,000 square yards against 260,000,000 square yards in 1933. The average

price of Japanese rayon exports in low qualities averaged only 4½d. per yard, whilst the United Kingdom exports averaged 1s. 3½d. and 10½d. per yard for mixtures. Japanese exports of wool tissues show an increase of 125 per cent. over those of 1933.

The Cotton Spinners' Association reported satisfactory profits for the first half of 1934, the consolidated returns of all companies showing profits of approximately 18 per cent. on the paid capital, and dividends of 12.7 per cent. Preliminary returns for the second half of the year showed some increase in the earnings for the larger companies, with the probability that the total profits for the industry will be slightly higher than in the preceding six months.

COTTON YARN AND TISSUES.

The market was dull on account of weakness in American cotton and declining demand for cotton tissues from abroad. The average quotation was, however, slightly higher than in the previous month.

Production of cotton yarn was slightly lower than in the previous month. The decline was, however, moderate considering that there were two more holidays. The rate of production curtailment from April to June is to be increased by 5 per cent. to a total restriction rate of 16.2 per cent.

The export of cotton tissues decreased compared with the previous month, but was still about 10 million yen larger than a year ago.

	Jan. 1935.	Dec. 1934.	Jan. 1934.
Cotton yarn, average (per bale)	Y214.83	Y210.41	Y205.17
do., Production (bales) ...	306,385½	320,367	270,985½
Export of Cotton tissues (Y1,000)	38,849	47,146	28,808

According to the Japan Cotton Spinners' Association, mill consumption of all raw cottons in Japan during the second half of 1934 totalled 101,237,000 kan (1 kan=8.267 lbs.) compared with 87,894,000 kan during the corresponding period in 1933, thus showing a rise of 13 per cent. The heavy advance in the price of American raw cotton during the above period resulted in an increase in consumption of Indian raw cotton from 29,014,000 kan in the second half of 1933 to 43,899,000 kan in the corresponding half of 1934.

The Japan Cotton Spinners' Association have decided to curtail production by 5 per cent. further during the period April to June, 1935, by means of sealing a corresponding number of spindles. The present percentage of curtailment is 11.2 per cent. in addition to four holidays per month. Under the new curtailment percentage the monthly production of yarn may amount to 315,000 bales. The decision to curtail further was considered inevitable, due to the fact that the market quotation for 20's yarn was below the theoretical cost of production by 15 yen to 20 yen.

POLAND.

DEGREE OF OCCUPATION OF THE COTTON MILLS

Four weeks' periods

1st Jan - 27th Jan, 1935	92.01	per cent	of full time production (48 hours weekly)
28th Jan. - 17th Feb., "	92.50	"	"
18th Feb - 17th Mar., "	99.68	"	"

EXPORT

	Cotton Yarn		Piece Goods		Clothing	
	Value zl.	Weight kg.	Value zl.	Weight kg.	Contents of cotton yarn kg.	Contents of cotton yarn kg.
January, 1935 ..	36,365	9,090	153,811	32,559	17,162	39,958
February, " ..	693	257	127,543	33,955	11,864	35,620
March, " ..	23,477	6,725	260,964	50,281	24,023	32,106

Zrzeszenie Producentów Przędzy Bawełnianej W Polsce).

SWITZERLAND.

The yarn market during the first quarter of 1935 has maintained its level, and was just about level on the whole with the present reduced scale of production.

In addition to a fairly regular seasonal sale a moderate seasonal increase of employment in the weaving mills catering for the finer class of goods in the home trade participated in the demand for yarns. The coarser yarns did not do so well, due to the small number of orders in the hands of the coarse, medium fine, and coloured goods weaving mills.

The productive capacity of firms is being reduced continually everywhere, so that the production limitations that can be ascertained in the mills still working only represent part of the whole reduction; in the spinning and doubling mills the reduction is about 25 per cent., in the coarse and medium fine weaving mills about 30 per cent., and in the fine weaving mills at least 40 per cent.

The original text in German runs as follows:

Der Gespinnmarkt hat sich im 1. Quartal 1935 für feinere Nummer ordentlich gehalten und reichte gerade aus, um im grossen Ganzen mit den bisherigen Produktionsdrosselungen durchzukommen. Neben einem ziemlich regelmässigen Exportabsatz war eine, wenn auch bescheidene saisonmässige Hebung der Beschäftigung in der einheimischen Feinweberei an der Garnnachfrage mitbeteiligt. Ungünstiger schnitten gröbere Gespinste ab im Zusammenhang mit dem geringen Auftragsbestand in der Grob-, Mittelfein- und Buntweberei.

Der Produktionsapparat wird auf der ganzen Linie fortwährend abgebaut, sodass die heute, bei den noch im Gange befindlichen Betrieben, sichtbaren Produktionseinschränkungen nur einen Teil der gesamten Reduktion wiedergeben; dieser letztere beträgt in Spinnerei und Zwirnerei rund 25 %; in der Grob- und Mittelfeinweberei ca 30% und mindestens 40% in der Feinweberei.

(Schweizerischer Spinner-,Zwirner-und Weber-Verein.)

YUGO-SLAVIA.

The degree of occupation in the cotton industry in Yugo-Slavia is distinctly downward; spinners have orders on hand for only about four weeks. The situation would, indeed, be much worse if the exchange restrictions did not prevent the excessive import of yarns. There is a distinct over-production of hosiery goods; looms are working at only 50 per cent. of last year's production.

Wages are about the same as in our previous report.

(*Drustvo Bombaznih Pedilnic Kraljevine Jugoslavije, Ljubljana.*)

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ARGENTINA.

Preliminary trade estimates indicate that the cotton acreage in Argentina for 1934-35 is between 40,000 and 100,000 acres larger than in that of 1933-34. According to a report just received by the Bureau of Agricultural Economics, the estimates for 1934-35 range from 495,000 to 556,000 acres as compared to unofficial estimates of 450,000 to 460,000 for 1933-34, and average acreage of the five years from 1928-1932 of 308,000, according to the official figures of the Argentine ministry of agriculture.

Potentialities for growing cotton in Argentina seem to be confined mainly to the Chaco in the north-eastern part of the country, where more than 95 per cent. of the cotton crop is now produced, says the report. Most of the cotton in the Chaco is grown within a distance of approximately 20 miles from railway towns. It is generally conceded, that within these limits there is room for at least 2,500,000 acres of cotton, or an increase of approximately 2,000,000 acres over the present planted area. There would have to be a considerable increase in population and an expansion in the existing facilities for ginning and handling the crop, however, before these additional 2,000,000 acres are likely to be planted to cotton, it is stated. Expansion beyond that area would depend upon still further increases in population as well as on the construction of additional railway lines and highways.

The Chaco territory is primarily a cotton-growing region, but many other crops are also grown there. Of a total of 600,000 acres of all crops in 1931-32, approximately 50 per cent. was in cotton, 44 per cent. corn and 6 per cent. in such other crops as sugar cane, vegetables, flaxseed, peanuts, alfalfa, castor beans and mandioca. Persons interested in promoting the cultivation of cotton in the Chaco have been continually urging farmers to raise their own food supplies in order to keep operating costs at a minimum. There is a small cotton acreage in some other parts of Northern Argentina, it is stated, but acreage outside the Chaco has been declining, because other crops are more profitable. The question of competition from other crops is not much of a factor in the Chaco, due to the especially favourable climatic conditions for cotton in that region, says the Bureau.

Cotton planting has been expanding gradually in Argentina since 1923-24. The area planted that year totalled 155,000 acres and the crop 59,000 bales (478 lbs. each) of ginned cotton. The local price of seed cotton that year was 480 paper pesos per metric ton (7.11 cents per lb.). By 1932-33 the cotton area had increased

to 342,000 acres and the crop to 150,000 bales of ginned cotton. Seed cotton that year sold locally at 169 paper pesos per metric ton (2.06 cents per lb.). No estimates of 1933-34 and 1934-35 production have been made yet.

It is significant to note that cotton acreage increased steadily from 1923-24 to 1932-33 notwithstanding a steady decline in prices, an expansion which took place entirely in the Chaco. Acreage outside the Chaco, in that period declined 56 per cent. One factor explaining the increase in cotton acreage in spite of declining prices, it is stated, was the establishment of new colonies in the Chaco. Some 300 families were moved by the Government to the Chaco territory from the Pampas territory where lack of rainfall had made physical existence precarious. Another factor was that low prices of other farm products, particularly corn, caused farmers in the Chaco territory to shift from corn to cotton.

EXPORTS OF ARGENTINE COTTON FROM BUENOS AIRES FOR THE NINE MONTHS, MARCH-DECEMBER, 1934 AND 1933

Firms	March- Dec., 1934	Same period, 1933
	Bales	Bales
Bunge & Born	65,915	51,601
Louis Dreyfus y Co. .	21,451	24,403
M. Comero y Cia ..	18,944	3,979
Comm. Belgo Argen	12,016	4,569
La Fabril S. A. ..	11,324	1,814
J. C. Kaehler ..	8,772	1,217
C. Abreu Sosa ..	4,567	200
N. Mihanovich ..	4,118	4,251
Rius y Jorba. .	3,702	2,000
N. J. Corbellini ..	2,950	1,050
Cia. Gral. F. Financ.	1,577	1,191
Varios	518	387
Total bales	155,854	98,662

BRAZIL.

The cotton section of the Brazilian Ministry of Agriculture published the following cotton crop estimate last December:—

PRODUCTION OF COTTON (RAW) GINNED IN BRAZIL DURING 1934

*NORTHERN SECTION (2nd estimate)

States	kgs.
Pará	1,200,000
Maranhão	7,500,000
Piauhv	4,000,000
Ceará	30,000,000
Rio Grande do Norte	25,000,000
Parahymba	35,000,000
Pernambuco	30,000,000
Alagoas	15,000,000
Sergipe	8,250,000
Bahia	5,000,000

180,950,000

* Planted from January to June, 1934, and harvested from August, 1934, to January, 1935.

†SOUTHERN SECTION (final estimate)

States	kgs.
São Paulo	105,000,000
Paraná	4,800,000
Minas Geraes	13,300,000
Other States	100,000
	<hr/> 123,000,000
Total :—	
North	160,095,000
South	123,000,000
Grand total 1934†	283,950,000

† Planted from September to November, 1933, and harvested from March to June, 1934.

‡ Provisional.

Cotton exports for the 11 months ended November, 1934, amounted to 110,000 metric tons (of approximately 2,205 lbs. each), compared with 9,473 tons for the corresponding 11 months of 1933. The average value per ton in 1934 was 3,549 milreis, against 2,812 milreis in 1933. (The average exchange value of milreis was about \$0.08 in 1933 and \$0.084 in 1934.) The quantity of cotton graded from the 1933-34 São Paulo crop amounted to 102,000 metric tons up to the end of December, according to the Bolsa de Mercadorias of São Paulo. A cotton exposition is to be held in São Paulo during April under the auspices of the São Paulo Department of Agriculture. The purpose of the exposition is to illustrate the progress of cotton-growing in Brazil and methods employed to promote the industry. Other States are invited to participate.

(United States Department of Commerce.)

On January 18 last, the President of the Republic of Brazil signed a Decree opening a special credit in the Ministry of Agriculture to the sum of 500 contos, for amplifying the commercial fiscalisation services of cotton for export.

Exports abroad during the first eleven months of last year were as follows :—

Months	Tons	Value in £ Gold
January	5,843	189,313
February	5,802	191,418
March.. .. .	4,318	136,789
April	4,630	142,571
May	9,377	256,204
June	10,167	302,064
July	8,132	315,117
August	14,803	574,830
September	12,354	460,014
October	16,986	709,612
November	17,896	717,432
Total	110,308	3,995,364

The following were the countries to which cotton was consigned from Brazil during the period above mentioned :—

Countries of Destination	Tons	Value in Contos.
Germany	14,829	56,375
Bulgaria	23	72
Denmark	9	26
U.S. America	2	7
Spain	105	396
Esthonia	45	161
Finland	45	172
France	9,964	35,703
Great Britain	61,894	216,835
Holland	4,664	17,469
India	58	211
Italy	3,572	13,016
Japan	1,696	5,836
Norway	91	405
Poland	224	695
Portugal	6,041	20,548
Sweden	60	213
Union of Belgium and Luxemburg	6,988	23,707
Total	110,308	391,847
Equivalent in £ gold	—	3,995,364

It was recently reported from Pará that the first cotton spinning and weaving factory was nearing completion. This is the first cotton mill to be established in the State and will comprise 300 looms and 8,000 spindles. Although not officially inaugurated, the factory had consumed, in the period May to October last year, 893 bales, representing 169,670 kilos of raw cotton of types 3 to 8.

The fact that more and more cotton merchants (principally from U.S.A.) are establishing themselves in Brazil, coupled with the rapidly increasing amount of ginning machinery which is finding its way to that country, seems to indicate that the handling, marketing and exporting of the Brazilian crop have made great progress during the past few years. This seems to be obvious from the tone of the letter reproduced below, which was recently received from a well-known firm in U.S.A. engaged in the manufacture of cotton ginning machinery.

“As you know, some of the difficulties in the past for handling of Brazilian cotton have been due to the mixture of fibres, careless picking and handling, and poor ginning due to the antiquated ginning machines commonly used throughout the country. The situation seems to be changing rather rapidly now, and there is a strong current demand for modern types of gin machinery in both North Brazil and South Brazil, but the principal market is, of course, in São Paulo. I sold some machinery while down there, and now practically every mail brings me inquiries from all sections of the country. I believe our cleaning machinery once introduced will probably set a new standard of preparation for cotton before it is passed to the gin saws, and feel certain Brazil will be a healthy market for our general line of machinery once the results that can be obtained with it are fully understood.”

While it is said that the actual damage done by the heavy and prolonged rains during the past month has been small, they have been prejudicial in that they have favoured the development of

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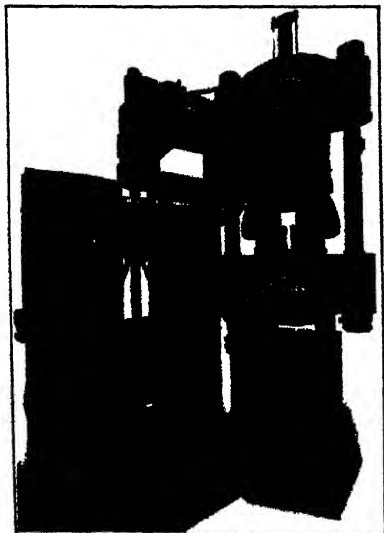
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cotton pests, notably the *coruquera*. The damage is estimated at 140,000 contos. Efforts are being made by the Government to check the ravages of the beetle. No official estimate has yet been made of the crop shortly to be picked (and which will be somewhat retarded owing to the rains), but there are those who aver that the optimistic estimates of a few weeks ago are not likely to be realized, and that the quantity to be gathered in the state may not exceed 170,000 tons, instead of the 200,000 to 210,000 tons which had been predicted. It is interesting to note that the value of the exports of cotton from Brazil to Great Britain rose from £352,484 in 1933 to £3,799,647 in 1934.

BRITISH WEST INDIES.

According to the report of the West Indian Sea Island Cotton Association of a meeting held by the Executive Committee on April 16, 1934, it was agreed that the acreage allotment for 1935-36 should be based on a production of 1,250,000 lbs., apportioned among the different islands. It was also agreed that a sum of £500 be placed at the disposal of the London Advisory Board for the purpose of advertising the uses for Sea Island cotton and a sum of £100 for advertising goods made from Sea Island cotton.

The cotton crop of Grenada for 1934 amounted to 843 bales of 300 lbs. net, compared with 1,127 bales in 1933. The crop is usually picked from March to June.

(United States Department of Commerce.)

BULGARIA.

With the object of making Bulgaria gradually independent of imports of cotton and cotton yarns, an increase is to take place in the area under cotton this year. Plans to this end are being prepared by the Ministry of National Economy. In the warmer districts in Southern Bulgaria, for example, the area under cotton is to be increased by 50 per cent. as compared with last year.

CHINA.

Favourable prices received for the 1934 cotton crop in China as compared with prices for other crops are expected to result in an increased acreage for 1935.

In Shanghai there is an increasing interest in cotton production among financial institutions and it is probable that plantings will be stimulated by the extension of more credit to growers. Winter moisture supplies in Chinese cotton-growing areas are reported to be ample. This will also encourage farmers to plant an increased acreage.

The 1934 acreage of cotton in China was materially above that of 1933, largely as a result of favourable prices for 1933 cotton as compared with prices received for other products, and an ample supply of soil moisture at planting time. Average yields in 1934,

however, were apparently somewhat less than in 1933, and the total 1934 production was only about 5 per cent. above that of 1933.

Consumption of cotton in China for the year ending September 30, 1935, is expected to be slightly less than last year, and with larger home production, import requirements are expected to be about 200,000 bales less than imports during the 1933-34 season. The decrease in imports is expected to take place in American and Indian cotton as Egyptian will probably increase.

The 1934 cotton acreage in China with normal yields would have produced something near the quantitative requirements for use in China. However, the production of higher quality cotton is not sufficient to meet the demand. The present outlook indicates a further expansion in cotton production in North China and a shift to better types of cotton produced from American seed. It is considered possible for some further expansion in production to take place in sections other than North China, but whether or not such expansion actually takes place will depend upon whether the price for cotton continues high in comparison with prices for other competing crops. As acreage expands and production reaches an export basis, prices might fall. This would act to retard expansion above home requirements.

The domestic market will continue to be the chief outlet for Chinese cotton. Purchasing power in rural communities to a large degree determines demand for Chinese yarn and piece goods. If the income of farmers is materially improved through measures now being instituted, it is conceivable that the demand for cotton in China may be greatly increased.

With the attention now being paid to cotton improvement and with heavy duties levied on foreign cotton it appears extremely unlikely that there will any resumption of large imports of foreign cotton. On the other hand improvement of China staple cotton production to the point where it will be a significant factor in export trade will be slow and dependent on many factors, chiefly the lower prices it will command on the world's markets compared with those it now brings on a protected home market.

The National Economic Council established the Cotton Industry Commission in October, 1933, and allocated \$280,000 of its funds in 1934 to improvement in the cotton industry. The programme concentrates at the beginning, chiefly on improvement and extension of cotton growing. It started with establishing a Cotton Improvement Centre charged with the work of cotton improvement which would co-operate with provincial reconstruction bureaus in various provinces in setting up branch offices. Short courses were established at the Central University and the University of Nanking, for cotton growing and co-operation in marketing. The secondary part of the programme has to do with improvement in cotton spinning and has chiefly to do with aiding technical institutes, such as Nantung Technical Institute, Tientsin Technical Institute, and Soochow Technical Institute, in the purchase of equipment for spinning, weaving, and dyeing purposes and other activities. The third part of the programme deals with investigating factories and marketing in order to obtain reference material to use in improving the industry.

The work of standardizing native cotton has been given considerable study through an office set up in Shanghai and tentative standards for various classes of Chinese cotton have been formed. Leaders in the movement to improve cotton in China see some danger in increased planting getting out of hand and proceeding too fast in comparison with improved quality and facilities for marketing. In order to start the programme on a sound long time basis they are concentrating on a type of co-operative in Shensi to meet the needs of the cotton growers.

Besides the National Economic Council, other agencies have been doing work toward cotton improvement. Spinners have recently given more attention to the production of better quality and staple of cotton in China and in some cases have interested themselves directly in giving out seed.

(Foreign Crops and Markets, U.S.D.C.)

The total *Chinese cotton crop* now appears to be about 2,800,000 bales of 500 lbs. each, compared with 2,650,000 last season.

(U.S. Department of Agriculture.)

A great increase in raw cotton cultivation is projected by the Government, according to a statement by the managing director (Mr. J. Funatsu) of the Japan Cotton Spinners' Association. An area of 400,000 hectares is to be put under cotton in the districts of Shenshi, Honan, Hopeh, and Shantung, whilst during the next five years the area under cotton in Kiangsu province is to be increased to 1,000,00 hectares. A first subsidy of 1,100,000 dollars has already been voted for the purpose. It would appear to be the intention that the surplus raw cotton should be exported to Japan. This would place China in a position to pay for her imports of cotton goods from Japan, which are apparently to be greatly increased in the near future.

COLOMBIA.

Cotton production in 1934 is placed at 1,600 metric tons (metric ton approximately 2,205 lbs.) by one of the principal cotton consumers. The small crop was ascribed to the severe winter. The 1935 production is expected to be somewhat larger than last year's owing to a number of new plantations and favourable weather for planting.

(United States Department of Commerce.)

GREECE.

The area planted to cotton in 1934 amounted to 110,000 acres, compared with 95,000 acres in 1933. Production in 1934 is estimated at about 50,000 bales of 500 lbs., against 43,000 bales in 1933, according to official figures. It is reported that selected

American seed was distributed by the Cotton Institute, and the work of the Government experts is said to have brought about a better quality cotton. Local authorities predict a further expansion in 1935. (*United States Department of Commerce.*)

MANCHUKUO.

American cotton growers need feel no immediate concern over the attempts being made to expand cotton production in Manchuria, according to a recent communication from the U.S. Department of Agriculture. While the past production of cotton in Manchuria has never been of sufficient importance to attract attention, the recent attempts to expand production have given rise to considerable enquiry as to the probable effect of such expansion in the market for American cotton in the Orient.

Approximately 198,000 acres were planted to cotton in Manchuria during 1934, which represented an increase of about 40 per cent. over the 1933 acreage. The crop, however, was only 6.7 per cent. larger, having amounted to 80,000 bales, compared with 75,000 bales in 1933, due to low yields resulting from excessive summer rainfall. The main reason for the increased acreage in 1934 was the relatively higher prices received for cotton in 1932 and 1933, compared with returns from other crops.

Although yields were low in 1934 it is expected that there will be a further acreage increase of about 20 per cent. in 1935. The Government hopes to be able to persuade farmers to expand acreage annually for the next fifteen years until production reaches 400,000 bales in 1950, which, it is felt, will be sufficient to supply the total annual requirements at that time. The programme provides that at least 50 per cent. of that output is to consist of Upland varieties from original American seed.

The Manchurian Government recognises that climatic factors present insuperable difficulties for cotton expansion outside of the limited area in South Manchuria where it is now being grown, but is also of the opinion that considerably more cotton could be produced in the areas where it is now being grown if farmers would substitute cotton for other crops now grown there. Whether farmers will make that shift will depend largely on the relative returns to be realised from cotton in competition with the other crops that can be grown.

Soya beans constitute the most important cash crop now being grown in the area where cotton is produced. The plan is to increase soya bean production in North Manchuria for shipment to South Manchuria if production in the latter region will shift from soya beans to cotton. The 15-year cotton expansion programme envisages an area of 740,000 acres under cotton by 1950, from which it is hoped to secure the 400,000 bales of cotton. Conservative investigators have expressed doubt as to whether such an area of land can be converted to cotton.

The cotton requirements for consumption in Manchuria at the present time amount to the equivalent of about four pounds of raw cotton per capita compared with 25 pounds for the United States. This figure is calculated on the basis of the raw cotton equivalent of

the present total consumption of raw cotton, cotton yarn and thread, cotton piece goods, and other cotton products, and represents a total raw cotton equivalent of approximately 270,000 bales of 500 lbs. each. Manchurian officials estimate that at the present rate of population growth and without any change in per capita consumption the nation will need 350,000 bales in 15 years, or somewhat less than the projected plan. It is quite possible, however, that per capita consumption may increase during that period so as to raise requirements to 400,000 bales by 1950.

The projected increase of some 300,000 bales in Manchurian cotton production in the next 15 years, if attained, will probably mean the displacement of Indian and American cotton. The report indicated that probably much more Indian than American cotton would be displaced. The total amount of American cotton to be displaced, however, is not likely to exceed 150,000 bales. The effect of the expansion programme on the market for American cotton in the Orient if actually realized, therefore, does not appear to be of major importance.

Two organizations have been set up in Manchuria for the purpose of promoting cotton production. The first is the Manchurian Cotton Association established in April, 1933, controlled by the Manchurian Government and the South Manchurian Railway Company, with offices in the Department of Industry of the Feng Tinen Provincial Government. The active officials are Japanese. The Association gives instruction in cotton cultivation, operates nursery beds, seed farms, and experiment stations, renders assistance for the co-operative marketing of cotton, gives financial assistance to growers, and carries on general research in cotton.

The second organization is the recently established Manchuria Cotton Company, controlled by the Manchurian Ministry of Industry. The main function of this organization is to purchase cotton from growers at guaranteed minimum prices and distribute better seed. Other companies may buy cotton, but this company is expected to assure a minimum price based on c.i.f. Osaka and American prices. The actual price to be paid will vary with the supply of the different classes of Manchurian cotton produced, and is to be fixed by the Ministry of Industry. The company is also authorized to pay higher prices for cotton grown in certain sections in order to stimulate production in such areas. The company will not contract acreage, but will merely guarantee a minimum price for all cotton delivered to it, and will make seed available to the farmers who wish to grow cotton. One-half of the capital of the Company is subscribed by the Government. Most of the remaining capital is subscribed by Japanese interests. In order to assist the company in the early stages of its existence the Government will grant an annual subsidy until the organization is able to pay a dividend of 6 per cent. per annum on shares held by private interests. The company will not be obliged to declare a dividend on Government shares until it is able to pay a 6 per cent. dividend on the other shares.

While the cotton-producing area of South Manchuria is in a latitude corresponding roughly to that of Cincinnati, Ohio, there are certain local modifying factors, such as mountains and the Japanese current, which make the climate somewhat milder during

the growing months. Temperature conditions, however, are still far from ideal for the production of cotton, according to the report. The average date for the last killing frost in the spring is the last week of April and for the first killing frost in the fall the second week of October. This gives an average frost-free period of only about 175 days. In the United States cotton is considered an extremely hazardous crop in sections where the frost-free period is less than 200 days. While the growing period for cotton in South Manchuria is much shorter than in the cotton regions of America, the favourable moisture conditions and warm nights during that period make cotton production possible.

Rainfall conditions are also far from ideal for cotton, according to the report. The beginning of summer is comparatively cool and dry, but during the latter part of the summer precipitation is sometimes excessive, as during the 1934 season. In other words the period of maximum rainfall and the fruiting season coincide. This distribution of rainfall makes the maturing of the higher-yielding American Upland varieties especially difficult.

(Foreign Crops and Markets.)

MEXICO.

The cotton crop of the Laguna district for 1934 is estimated at about 130,000 bales, which is 25 per cent. under the 1933 crop. Preliminary estimates for 1935 placed the crop at 80,000 to 100,000 bales, the reduction in the estimate taking into consideration the scarcity of irrigation water.

Cotton exports from January to November, 1934, totalled 2,989,000 kilogrammes, compared with 1,359,000 kilogrammes for the whole year 1933. The highest quantity exported during the past 10 years was 28,147,000 kilogrammes in 1926. Cotton imports for the 11 months of 1934 totalled 43,000 kilogrammes, compared with 8,184,000 kilogrammes for the whole year 1933. Imports from the United States amounted to only 239 kilogrammes, against 7,926,000 in 1933, and imports from Egypt were 34,000, against 215,000 kilogrammes in 1933. Cotton production in 1934 is estimated to have been 45,234,000 kilogrammes (equivalent to about 210,000 bales of 500 lbs.), compared with 56,465,000 kilogrammes (260,000 bales) in 1933. The highest production for the past 10 years was 78,016,000 kilogrammes (360,000 bales) in 1926.

(United States Department of Commerce.)

MOROCCO.

His Majesty's Consul-General at Rabat has called attention to the fact that a Vizirial Decree of September 20, 1927, prohibits the importation or transit of cotton-seed in the French Zone of Morocco, and also of bags or containers of any kind which have been used for cotton or cotton-seeds.

NYASALAND.

H.M. Eastern African Dependencies' Trade and Information Office has received the following report from Nyasaland for the month of January, 1935:—

It is early yet to say how the cotton crop will turn out. Some say that this is the one crop that lack of sun and soil do not harm, but early growth even in the Bwanje valley has been severely checked. It is now possible to give accurate details of the cotton crop of 1934. The total amount of seed cotton sold by Crown-land native growers was 12,045,263 lbs., giving nearly 1,800 tons of lint. The sums paid out to the growers amounted to over £56,000.

PARAGUAY.

The cotton crop has, in some parts, suffered from the drought, but the area under cultivation is much greater than has ever been known formerly, and prospects offer every cause for satisfaction. Until last year Paraguayan cotton lost its individuality on reaching the Argentine, and was received abroad as Argentine cotton. Paraguayan export bills are now, however, negotiated in the "free" market in Buenos Aires, and shipments are not fused as formerly. As a consequence, the fibre produced in this country has latterly received a definite classification as such, and better prices are realized than for that grown in the Argentine. There is a growing interest in Liverpool for the Paraguayan fibre, as the seed selected last year gave excellent results both as to quality and yield.

PERU.

The profits from the sale of cotton during the last two seasons were reported to be good, and as a result the acreage planted for the next year's crop is said to be larger but not even approximate estimates are available. It is said that a number of large farms switched from sugar to cotton owing to the difficulties in the sugar market.

SPAIN.

The change made early in 1934 in the basis of payment of the bounty to encourage cotton production appears to have been effective, according to local officials. Formerly the bonus had been paid on the basis of acreage, but in 1934 it was changed to a quantity basis. The increase in the 1934 production to 7,000 bales, compared with an annual output of 2,000 to 4,000 bales in former years, is ascribed to this change. Most of the cotton is grown in the Seville district, but efforts are being made to develop cotton-growing in Cordoba as well.

(United States Department of Commerce.)

SUDAN.

Picking of the 1934-35 cotton crop is making good progress, and damage caused by insects is up to the present less than usual. Compared with last year, an increase of 12 per cent. is expected in the production of *Sakellaridis*, the increase occurring for the most part

in Gezira. American irrigated, however, shows a decrease of 30 per cent. Rain-grown American is greater by 40 per cent., the increase taking place chiefly in Kordofan.

(*International Institute of Agriculture.*)

The following is the Sudan Government end of January estimate of the cotton progress, 1934-1935 season. It must be understood that these figures are only roughly approximate at this stage of the cotton season :—

(Bales of approximately 400 lbs. lint)						
	Estimated Total Yield		Picked to Date		Area under crop, Feddans	
	1934-35	1933-34	1934-35	1933-34	1934-35	1933-34
Sakellaridis :—	Jan	June	Jan.	June	Jan.	June
Gezira { Syndicate }	164,230	102,490	46,727	22,312	156,040	155,936
Gezira { K C C. }			8,428	2,860	19,143	18,991
Tokar	12,000	5,653	695	—	31,681	37,700
Kassala	12,500	15,341	—	1,000	28,210	31,146
Shambat and Dueim	500	262	218	133	500	500
Private Estates (Khartoum and Berber Province)	5,675	4,090	1,790	1,196	6,343	4,947
Total Sakellaridis	194,925	127,838	57,858	27,501	241,917	249,220
American :—						
Irrigated	8,617	13,396	7,266	12,186	12,421	12,300
Rain-grown	33,293	21,700	25,786	18,042	96,916	59,414
Total American ..	41,910	35,096	33,052	30,228	109,337	71,714
Total Sakellaridis and American	236,835	162,934	90,910	57,729	351,254	320,934

According to the latest information from the Government of Khartoum, the picking of Sakellaridis cotton is progressing well, and an increase of more than 5 per cent. on last year's production is expected. The increase is noticeable especially in Gezira and Tokar. The quality of the crop is good. The production of American irrigated is smaller, but that of American rain-grown is more than 50 per cent. larger. Taken altogether, the output expected this year is only smaller than the record of 1931-1932 and the difference in this case is slight. (I. T. A.)

UGANDA.

According to H.M. Eastern African Dependencies' Trade and Information Office, the improvement in prospects West of the Nile have been maintained and a top crop will now be harvested. In Busoga District the slight improvement recorded in the last report was not maintained. In the remainder of the Eastern Province crop prospects show no improvement, conditions in the Bugwere-Bugishu-Budama area having, if anything, become less favourable. In the Northern Province in general, the crop will be up to expectations. The slight setback referred to in the Eastern Province necessitates a revision of the estimate given in the last report and it is now considered that the crop is not likely to exceed 240,000 bales.

Cotton crop of 1934-35 now is estimated at about 240,000 bales of 400 lbs. on the basis of current crop conditions. This figure compares with the estimated 1933-34 production of 275,000 bales. Cotton booked for export from January to the end of November, 1934, amounted to 278,000 bales 400 lbs. each.

(United States Department of Commerce.)

In general the rains continued throughout December and, in Buganda and Busoga, where normal temperatures obtained, these conditions led to a slight improvement in crop prospects. In other areas east of the Nile the extension of the rains was accompanied by cloudy weather and sub-normal temperatures, conditions that retarded growth and ripening and brought no improvement in crop prospects. In the Eastern Province early buyings indicated that, as a result of adverse growing conditions, grade of raw cotton would be below that of last year.

(International Institute of Agriculture.)

The Department of Agriculture, Uganda, No. 9 Cotton Report for 1934-35, states that the total purchases to the end of February are equivalent to approximately 165,000 bales of 400 lbs. each. In the Eastern and Northern Provinces reports indicate that little cotton remains to be marketed. In Buganda Province the position is rather obscure.

Weather conditions in Buganda during February were most unfavourable, heavy rainfall being recorded from most areas. These conditions have adversely affected the prospects of late-sown cotton and the top crop which was expected to develop on the earlier plantings.

The result of these conditions, which have continued during March, necessitates a downward revision of the estimate published in the last report, and it is now considered that the crop is not likely to exceed 220,000 bales.

U.S.S.R.

According to the United States Department of Agriculture, the present estimate of the 1934 Russian cotton crop is about 1,937,000 bales of 478 lbs. net and is thus slightly above the crop out-turn of 1933 when 1,887,000 bales of 478 lbs. net were harvested.

The 1934 cotton acreage amounted to 4,764,000 acres, which is in line with the 1934 plan; this plan provided for an acreage below the 5,070,000 acres planted in 1933.

The above figures on acreage and production indicate a 1934 yield of ginned cotton of 191 lbs. per acre, as compared with 178 lbs. per acre harvested in 1933. While this is appreciably below the plan for a significant increase in yields (up to 750 kilograms of unginned cotton which, in terms of ginned cotton, is about 240 to 250 kilograms per hectare, or 220 to 240 lbs. per acre), the above 1934 yield would mean an increase by 9 per cent. over that of 1933. It appears doubtful, in the face of the unfavourable weather conditions experienced in 1934 in the cotton regions of the Union, whether the 1934 yield and production actually reached the level indicated.

The fact that this year's procurings have not yet been completed—with only 88 per cent. of the yearly plan executed by January 20, whereas the procuring campaign was fully completed by the beginning of January in 1934—may also point to an overestimation of this year's crop. As procurings have been developing very slowly during the past weeks—only 3 per cent. of the total yearly plan were procured between December 20, 1934, and January 20, 1935—it is likely that this year's procuring plan will not be fully executed.

Another result of this year's unfavourable weather conditions is the considerable prevalence of lower grade cotton. It is reported that cotton of the "first" and "second" grades will constitute only about 50 per cent. of the total crop, as compared with a normal of over 80 per cent. Thus the industry will have to work up a considerably larger quantity of low-grade cotton, which may cause some difficulties in manufacturing and may prevent the quality improvement of textile goods foreseen by the plan.

According to a governmental measure of March 7, the quantity of unginned cotton to be delivered to the State during the year 1935-36 in accordance with the contracts made with collective and individual enterprises was fixed at 3,097,000,000 lbs. The regions which grow cotton on irrigated lands (Uzbekistan, Turkmenistan, Tajikistan, Kirghiz, Kara-Kalpak, Kazakstan, Azerbaijan, Armenia and Georgia, must supply in all 2,912,000,000 lbs., of which 136,000,000 lbs. is to be Egyptian cotton. The remaining 186,000,000 lbs. is to be supplied by the areas known as the new cotton producing areas (North Caucasus, the Azov Black Sea region, the Stalingrad region, Crimea and Ukraina) where cotton is grown in unirrigated fields. According to the plan the total production of unginned cotton expected during the year 1935-36 is 3,417,000,000 lbs. of unginned cotton on a total area of 4,800,100 acres, of which 4,172,400 acres are on collective establishments, 375,600 on individual farms and 252,100 on State farms.

The measure referred to above also gives the rules to be followed in the making of contracts. Of these, the following are the most important: a reduction from 6 to 3 per cent. in the interest to be paid on sums advanced to cotton growers and the granting of premiums to growers who obtain unit yields higher than those fixed. Further, in a considerable number of districts in regions where cotton is grown on irrigated land and where cotton cultivation is already fairly widespread but not, as yet, sufficiently stabilized, agricultural taxes are completely suspended for a period of two years in collective farms while individual farms receive an exemption of 50 per cent.

(International Institute of Agriculture.)

POLISH COTTON GROWN IN LIBERIA.

A statement recently appeared in *The Textile Mercury*, to the effect that an interesting experiment in international industrial relations is now being made by Poland and the Republic of Liberia. Recently a group of cotton interests in Poland acquired from the

Liberian Government a concession of 50 cotton plantations. Seven of these are already in operation and others will be placed on a productive basis as soon as a market can be arranged for the cotton in Poland.

Poland will thus be able to produce cotton that may be truthfully be called "Polish cotton" and Polish business men consider this as an excellent way for their country to overcome the handicap of a lack of colonial possessions.

AN INTERNATIONAL COTTON PACT.

It is interesting to learn that the American Embassy in London has approached the British Government with proposals for an international agreement on raw cotton production. The project is looked upon by the Government as a far-reaching development having a direct bearing not only on Lancashire manufacturing interests, but also on India, and the other cotton producing countries of the Empire. The authorities in Washington are aiming at restricting the production of cotton everywhere in order to prevent the price-raising objects of the reduction in the American crop from being nullified by increased production elsewhere.

THE WORLD'S COTTON PRODUCTION.

(Compiled by the United States Department of Agriculture.)

Production	Bales 478 lbs. net	Bales 478 lbs. net	Bales 478 lbs. net	Bales 478 lbs. net	Per cent.
United States	17,095	13,001	13,047	9,731	74.6
India	3,353	3,898	4,197	3,613	86.1
China*	1,785	2,261	2,726	2,800	102.7
Egypt	1,323	1,028	1,777	1,617	91.0
Mexico	210	102	260	209	80.4
Turkey	91	28	128	77	60.2
Russia	1,843	1,778	1,887	1,937	102.6
Brazil †	449	226	468	753	160.9
Bulgaria	4	6	11	23	209.1
Manchuria	+	†	80	100	125.0
Greece	14	22	32	50	156.2
Italy	1	1	1	4	400.0
Anglo-Egyptian Sudan§ ..	39	43	50	59	118.0
Chosen	101	136	140	150	107.1
Estimated foreign countries	10,405	10,699	13,053	12,869	98.6
Estimated world total ..	<u>27,500</u>	<u>23,700</u>	<u>26,100</u>	<u>22,600</u>	<u>86.6</u>

Division of Statistical and Historical Research. Compiled from official sources International Institute of Agriculture and estimates of the Bureau of Agricultural Economics, except as noted.

* Estimates of the Chinese Cotton Statistics Association except production for 1934-35 which is an estimate of the Agricultural Commission at Shanghai.

† Comparable estimates not available at this time.

‡ The North-eastern States which, during the three years 1931-32 through 1933-34, produced a little less than 60 per cent. of the total Brazilian crop, and in 1933-34 about 48 per cent. of the total crop.

§ Excluding Sakellaris in the Gezira territory, production of which averaged 110,000 bales for the three years 1931-32 through 1933-34.

WORLD'S COTTON ACRE- COTONNIER—SUPERFICIE, PRODUCTION ET RENDEMENT PAR HECTARE

Table prepared by The International

COUNTRIES		Average				
		1925-28/ 1929-30	1930-31	1931-32	1932-33	1933-34
		hectares	hectares	hectares	hectares	hectares
EUROPE						
1	Bulgaria	4,398	5,462	5,534	8,037	20,538
2	Spain	5,530	18,354	5,767	8,167	7,500
3	Greece	16,114	20,163	18,482	20,233	28,615
4	Italy	(1) 3,199	3,551	1,700	1,462	1,465
5	Malta	402	202	135	27	25
6	Roumania	40	18	91	336	2,198
7	Yugo-slavia	713	1,306	747	911	820
Total		30,000	49,000	32,000	39,000	61,000
8	U.S.S.R.	814,720	1,582,600	2,137,600	2,172,000	2,051,600
NORTH AND CENTRAL AMERICA						
9	United States	17,242,100	17,180,700	15,668,500	14,544,100	12,181,800
10	Guadeloupe	600	600	600	300	300
11	Guatemala	308	343	232	20	—
12	Haiti (3)	55,944	81,000	91,100	101,200	109,300
13	British West Indies—Antigua	273	607	200	80	26
14	" Barbados	639	1,151	589	95	25
15	" Grenada (3)	1,600	1,600	1,600	—	—
16	" Montserrat	1,198	1,851	1,388	607	883
17	" St. Christopher and Nevis	1,122	2,000	1,380	223	154
18	" St. Vincent (4)	1,590	1,601	729	271	492
19	Mexico	190,867	157,944	129,114	77,854	171,707
20	Nicaragua (3)	—	—	—	—	—
21	Porto-Rico	4,055	8,094	3,400	—	—
22	Dominican Rep. (3)	—	—	—	—	—
23	Salvador (3)	—	—	—	—	—
Total		17,500,000	17,440,000	15,900,000	14,780,000	12,420,000
SOUTH AMERICA						
24	Argentina	97,561	127,394	136,159	138,500	194,258
25	Bolivia	(5) 2,418	—	—	—	—
26	Brasil	520,129	551,700	692,400	825,050	790,000
27	Colombia	(5) 21,425	—	13,600	—	—
28	Paraguay	11,421	13,310	11,630	—	—
29	Peru	123,148	138,688	126,800	123,065	130,481
30	Venezuela	—	—	—	—	—
Total		770,000	850,000	980,000	1,110,000	1,140,000
31	Ceylon	780	930	800	800	800
32	China (6)	1,828,700	2,309,700	1,943,800	2,279,400	2,485,500
33	Cyprus	4,590	8,557	4,536	2,528	1,925
34	Korea	200,418	191,281	190,956	167,954	175,200
35	French India	142	202	190	180	173
36	British India	10,600,000	9,638,200	9,599,800	9,098,400	9,608,700
37	Dutch East Indies	8,785	8,696	6,829	10,183	8,094
38	Indo-China, Annam	6,020	9,160	8,000	8,000	7,600
39	" Cambodia	6,149	6,843	5,932	5,057	5,000
40	" Cochinchina	429	800	—	100	100
41	" Laos	1,570	1,500	1,000	3,200	1,400
42	" Tonkin	1,747	1,466	997	1,310	1,393

* Countries for which the figures are not included in the totals.

(1) Season 1929-30. (2) Area harvested. Production figures do not include linters, which amount to the following quantities, in quintals: 2,535,000 (average 1925-26 to 1929-30), 2,158,000 (1930-31), 2,333,000 (1931-32), 1,994,000 (1932-33), 2,150,000 (1933-34) provisional calculated estimate. (3) Exports of ginned and unginned cotton, reduced to terms of ginned cotton. (4) "Sea Island" cotton. Figures of the area under "Marie Galante" cotton are as follows, in hectares: 466 (average 1925-26 to 1929-30), 421 (1930-31), 359 (1931-32), 324 (1932-33), 291 (1933-34).

AGE AND PRODUCTION

COTTON—AREA, PRODUCTION AND YIELD PER HECTARE.

Institute of Agriculture, Rome.

Production of Ginned Cotton					Yield per hectare					No.
Average 1925-28/ 1929-30	1930-31	1931-32	1932-33	1933-34	Average 1925-28/ 1929-30	1930-31	1931-32	1932-33	1933-34	
quintals	quintals	quintals	quintals	quintals	quintals	quintals	quintals	quintals	quintals	
6,600	8,133	8,956	13,021	23,950	1.5	1.5	1.6	1.6	1.2	1
6,719	16,111	8,000	10,591	9,060	1.2	0.9	1.4	1.8	1.2	2
32,569	35,015	29,642	47,661	69,036	2.0	1.7	1.6	2.4	2.4	3
7,155	9,612	8,037	2,431	2,566 (1)	2.2	2.7	1.8	1.7	1.7	4
930	532	366	74	57	2.3	2.6	2.7	2.7	2.3	5
61	39	232	777	3,848	1.5	2.2	2.8	2.3	1.8	6
900	1,349	741	1,176	684	1.3	1.0	1.0	1.3	0.8	7
55,000	71,000	51,000	76,000	109,000	1.8	1.4	1.6	1.9	1.8	
2,157,600	3,441,000	3,999,000	3,987,000	4,092,000	2.6	2.2	1.9	1.8	2.0	8
33,103,500	30,206,100	37,066,200	28,189,500	28,288,700	1.9	1.8	2.4	1.9	2.3	9
280	400	250	150	90	0.5	0.7	0.4	0.3	0.3	10
950	795	648	30	—	3.1	2.3	2.3	1.5	—	11
48,400	41,725	63,068	58,465	—	—	—	—	—	—	12
360	577	160	38	12	1.8	1.0	0.8	0.5	0.5	13
478	1,544	332	66	7	0.7	1.3	0.6	0.7	0.3	14
1,600	1,203	1,535	1,612	—	—	—	—	—	—	15
2,310	3,346	1,816	849	2,164	1.9	2.0	1.3	1.4	2.5	16
1,040	8,279	1,437	386	223	1.7	1.7	1.1	1.7	1.4	17
1,770	2,745	935	371	452	1.1	1.7	1.3	1.4	0.9	18
548,130	384,868	435,811	220,151	564,654	2.9	2.4	3.5	2.8	3.3	19
410	1,082	—	—	—	—	—	—	—	—	20
4,400	8,051 (3)	5,243	—	—	1.1	1.0	—	—	—	21
680	96	—	—	—	—	—	—	—	—	22
1,400	521	79	416	—	—	—	—	—	—	23
33,720,000	30,660,000	37,800,000	28,480,000	28,920,000	1.9	1.8	2.4	1.9	2.3	
250,190	300,510	368,890	325,110	480,000	2.6	2.4	2.7	2.3	2.5	24
4,640	—	—	—	—	(5) 1.9	—	1.8	1.8	3.4	25
1,134,500	993,060	1,246,255	1,496,380	2,717,000	2.2	1.8	2.0	—	—	26
33,350	—	27,715	—	—	(5) 1.6	—	1.8	—	—	27
24,520	40,000	34,230	—	—	2.1	3.0	3.0	—	—	28
532,740	586,950	507,000	525,731	602,280	4.3	4.4	4.0	4.3	4.6	29
72,220	—	—	—	—	—	—	—	—	—	30
1,980,000	1,950,000	2,180,000	2,410,000	3,880,000	2.6	2.3	2.2	2.2	3.4	
500	—	—	—	—	0.6	—	—	—	—	31
4,484,600	5,325,600	3,868,900	4,900,100	5,908,800	2.4	2.3	2.0	2.1	2.4	32
5,480	8,870	5,197	2,032	1,657	1.2	1.0	1.1	0.8	0.9	33
298,380	829,870	218,858	294,217	308,473	1.5	1.7	1.1	1.9	1.7	34
510	758	753	838	840	3.6	3.8	4.0	4.8	4.7	35
10,242,800	9,481,900	7,270,500	8,447,700	9,017,400	1.0	1.0	0.8	0.9	0.9	36
10,230	5,408	12,005	6,304	12,248	—	—	—	—	—	37
5,180	11,000	5,000	7,000	6,500	0.9	1.2	0.6	0.9	0.9	38
4,780	—	5,340	5,000	5,000	0.8	—	0.9	1.0	1.0	39
390	504	—	70	70	0.9	0.8	—	0.7	0.7	40
1,240	950	500	1,625	750	0.8	0.6	0.5	0.5	0.5	41
2,000	1,538	200	800	250	1.1	1.0	0.2	0.6	0.2	42

Production figures are lacking. Exports, in quintals, expressed in terms of ginned cotton, are respectively as follows : 297; 153; 809; 356; . . . (5) Average of four seasons. (6) Estimates of the Chinese Cotton Statistics Association, created by the Chinese Cotton Millowners' Association, Shanghai. The Chinese Government has communicated the following estimates, for 1933-34 : 4,147,600 hectares; 10,373,500 quintals; unit yield, 2.5. See notes at the end of the volume. (7) Area figures refer only to Java and Madura. For the other islands, figures are lacking.

WORLD'S COTTON ACRE- COTONNIER—SUPERFICIE, PRODUCTION ET RENDEMENT PAR HECTARE

No.	COUNTRIES	Area				
		Average	1930-31	1931-32	1932-33	1933-34
		1925-26/ 1929-30				
		hectares	hectares	hectares	hectares	hectares
43	Iraq	—	—	—	—	—
44	Japan	1,160	630	572	632	739
45	Persia	—	—	60,000	53,444	—
46	Philippine Islands	(2) 355	376	725	850	—
47	Siam	3,620	4,639	2,474	—	—
48	Syria and Lebanon	23,380	24,580	30,385	9,828	7,801
49	Turkey	149,070	246,578	195,814	144,721	161,950
	Total	12,900,000	12,490,000	12,060,000	11,780,000	12,520,000
AFRICA						
50	French Equatorial Africa	7,800	20,000	26,213	62,821	85,000
	French West Africa :					
51	Ivory Coast	56,000	68,195	40,000	51,500	—
52	Dahomey	69,000	55,000	45,000	35,000	71,000
53	French Guinea	14,000	400	360	830	—
54	Haute-Volta (3)	55,000	53,900	21,170	—	—
55	Mauritania	700	700	500	—	90
56	Niger (3)	7,440	5,650	6,000	11,000	13,750
57	Sénégal	14,600	2,500	2,500	2,500	4,000
58	French Sudan	60,000	67,400	60,000	68,000	59,670
59	Algeria	6,130	4,137	1,845	190	20
60	Angola	4,240	5,237	3,820	—	—
61	Belgian Congo	102,400	136,553	148,856	190,724	—
62	Egypt	739,860	874,783	706,989	459,442	757,012
63	Eritrea	2,800	2,500	2,800	2,375	3,000
64	Kenya	—	—	—	—	—
65	Madagascar	400	146	100	85	70
66	French Morocco	600	270	57	60	150
	Mozambique :					
67	Terr. de la Compagnie	(4) 9,190	(4) 8,690	(4) 7,757	10,891	—
68	Terr. de la Province	(5) 13,350	—	—	—	—
69	Nigeria (1)	—	—	—	—	—
	Nyassaland :					
70	Crops of Europeans	2,890	308	91	107	100
71	Crops of Natives	(5) 10,500	15,853	12,473	13,587	12,138
72	Uganda (1)	248,950	299,338	360,153	433,578	441,364
73	Southern Rhodesia	6,780	3,634	1,411	768	—
74	Northern Rhodesia	1,070	60	14	8	—
75	Ruanda-Urundi	(2) 400	1,327	1,914	1,989	3,077
76	Italian Somaliland (6)	5,820	7,000	5,890	—	—
77	Anglo-Egyptian Sudan	105,230	156,711	135,922	133,493	134,618
78	Tanganyika	50,670	45,017	42,800	—	—
79	Togo (zone under French mandate)	31,000	—	—	—	—
80	Union of South Africa	25,120	12,695	5,673	—	—
	Total	1,720,000	1,980,000	1,890,000	1,620,000	2,050,000
OCEANIA						
81	Australia (Queensland)	7,419	9,086	12,138	27,600	—
82	Fiji Islands	480	421	580	256	—
83	New Caledonia	—	—	—	—	773
84	New Hebrides	—	—	—	—	—
	Total	11,600	12,600	15,300	28,600	—
Grand Total :						
	Not including U.S.S.R.	32,940,000	32,770,000	30,680,000	29,310,000	28,220,000
	Including U.S.S.R.	33,750,000	34,350,000	32,820,000	31,480,000	30,270,000

(1) Exports of ginned and unginned cotton, reduced to terms of ginned cotton. (2) Season 1929-30. (3) In 1933 the territory of Haute-Volta was divided between the Ivory Coast, Niger and French Sudan and from 1932-33 the data for the transferred territories are comprised in those of the three last-named colonies. See notes at the end of the volume. (4) Cultivation by Europeans only. (5) Average of four seasons. (6) Irrigated crops only. (7) Including Swaziland.

COTTON GROWING

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AGE AND PRODUCTION

COTTON—AREA, PRODUCTION AND YIELD PER HECTARE.

Production of Ginned Cotton					Yield per hectare					No.
Average 1925-26/ 1929-30	1930-31	1931-32	1932-33	1933-34	Average 1925-26/ 1929-30	1930-31	1931-32	1932-33	1933-34	
quintals	quintals	quintals	quintals	quintals	quintals	quintals	quintals	quintals	quintals	
6,400	6,007	1,527	744	920	—	—	—	—	—	43
2,360	1,470	1,275	1,286	1,765	2.0	2.3	2.2	1.9	2.4	44
174,590 (1)	102,387	228,750	155,190	—	—	—	3.8	2.9	—	45
652	739	1,473	1,766	—	1.8	2.0	2.0	2.1	—	46
7,030	9,289	5,034	—	—	1.9	1.8	2.4	—	—	47
21,510	26,580	36,377	11,442	9,241	0.9	1.1	1.2	1.2	1.2	48
212,970	180,352	196,790	61,230	276,900	1.4	0.7	1.0	0.4	1.7	49
15,460,000	15,430,000	11,960,000	13,900,000	15,730,000	1.2	1.2	1.0	1.2	1.3	
4,600	12,000	12,800	23,200	44,900	0.6	0.6	0.5	0.4	0.5	50
10,400	8,830	6,310	9,024	—	0.8	0.1	0.1	0.2	—	51
10,000	10,000	6,500	6,500	8,500	0.1	0.2	0.1	0.2	0.1	52
4,000	100	90	50	—	0.3	0.2	0.2	0.2	—	53
9,300	8,100	3,250	—	—	0.2	0.2	0.2	—	—	54
200	230	130	—	32	0.3	0.3	0.4	—	0.4	55
2,330	2,300	1,900	3,100	3,200	0.3	0.4	0.3	0.3	0.2	56
2,900	500	500	500	800	0.2	0.2	0.2	0.2	0.2	57
16,000	23,300	21,000	19,000	17,500	0.3	0.3	0.3	0.3	0.2	58
12,630	11,608	2,623	390	45	2.1	2.8	1.6	2.1	2.2	59
5,770	7,958	6,790	—	—	1.4	1.6	1.5	—	—	60
56,810	145,239	86,736	150,152	—	0.6	1.1	0.6	0.8	—	61
3,441,770	3,718,129	2,856,073	2,236,633	3,652,626	4.7	4.3	4.0	4.8	5.1	62
3,060	3,700	2,300	1,700	1,890	1.1	1.5	0.8	0.7	0.4	63
2,620	1,543	3,149	5,511	12,247	—	—	—	—	—	64
400	127	90	—	—	1.0	0.9	0.9	—	—	65
970	—	—	—	300	1.6	—	—	—	—	
5,730 (4)	6,269 (4)	5,424	7,950	—	(4) 0.6	(4) 0.7	(4) 0.7	0.7	—	
18,760	—	—	—	(5) 1.4	—	—	—	—	—	68
62,540	34,201	11,373	44,209	47,173	—	—	—	—	—	69
1,840	323	81	173	346	0.6	1.0	0.9	1.6	3.5	70
7,610	16,602	7,550	3,222	4,388 (5)	0.7	1.0	0.6	0.6	0.8	71
284,580	342,771	376,166	384,927	508,024	—	—	—	—	—	72
3,070	3,347	827	579	—	0.5	1.0	0.6	0.8	—	73
280	113	29	35	—	0.3	2.3	2.1	4.4	—	74
640	994	2,194	2,610	5,414 (2)	1.6	0.7	1.1	1.3	1.8	75
0,280	7,500	11,744	—	—	1.6	1.1	2.0	—	—	76
271,730	215,649	461,307	254,638	292,812	2.6	1.4	3.1	1.9	2.2	77
44,530	41,977	20,507	32,729	51,691	0.9	0.9	0.5	—	—	
16,760	14,195	12,527	10,368	—	—	—	—	—	—	
24,540	14,737	5,080	3,319	4,858	1.0	1.2	0.9	—	—	
4,340,000	4,670,000	3,940,000	3,390,000	5,110,000	2.5	2.4	2.3	2.1	—	
16,166	23,050	9,480	26,740	40,300	2.2	2.5	0.8	1.0	—	81
610	722	483	164	—	1.3	1.7	0.8	0.6	—	82
1,070	1,524	500	100	—	—	—	—	—	—	83
5,480	3,932	1,920	630	—	—	—	—	—	—	84
23,300	29,200	12,400	27,700	41,000	2.0	2.3	0.8	1.0	—	
55,580,000	52,980,000	55,640,000	48,280,000	53,770,000	1.7	1.6	1.8	1.6	1.9	
57,740,000	56,300,000	59,640,000	52,220,000	57,860,000	1.7	1.6	1.8	1.7	1.9	

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GOVERNMENT'S FINAL GINNING REPORT.

The final ginning report of the season, issued recently by the Census Bureau, shows that the total amount ginned of last year's cotton crop was 9,469,000 bales, against 12,644,000 bales and 12,710,000 bales for the two preceding crops. The amount ginned since January 15, when the last report was compiled, is 89,000 bales, against 107,000 bales in the same period last year. The cotton included in the total but not yet ginned is estimated at 9,000 bales, against 7,000 bales last year. The total includes 197,000 round bales and 14,000 bales American-Egyptian, against 607,000 round bales and 10,000 bales American-Egyptian shown in the corresponding report a year ago. The average gross weight of the bale is estimated at 508.7 lbs., against 515.1 lbs. last year. The total ginnings in equivalent 500-lb. bales is 9,634,000, against 13,047,000 for the previous crop.

The following table gives details of ginnings with comparisons:

	1935	1934	1933
Alabama	936,000	951,074	933,756
Arizona	113,000	92,934	67,135
Arkansas	849,000	1,014,645	1,283,432
California	251,000	210,682	124,361
Florida	24,000	24,135	15,580
Georgia	975,000	1,093,383	861,789
Louisiana	473,000	469,260	599,473
Mississippi	1,121,000	1,132,152	1,161,188
Missouri	231,000	237,927	300,695
New Mexico	83,000	86,121	67,485
North Carolina	641,000	690,506	680,279
Oklahoma	330,000	1,235,851	1,072,022
South Carolina	684,000	728,025	722,229
Tennessee	397,000	428,881	467,491
Texas	2,314,000	4,220,275	4,307,383
Virginia	33,000	34,413	31,360
Other States	14,000	13,753	13,989
Total	9,469,000	12,664,019	12,709,647

GRADE, STAPLE LENGTH, AND TENDERABILITY OF COTTON IN THE U.S., 1928-29 TO 1932-33.

The above-mentioned bulletin (No. 47) has recently been published by the United States Department of Agriculture, and contains a mass of information on the grade, staple length and tenderability of cotton in the United States, which has been gathered regularly by the United States Department of Agriculture since 1927.

The information contained in this bulletin supplements in some respects that contained in a previous bulletin, and presents, in addition, detailed figures on the grade, staple length and tenderability of cotton ginned from the 1932 crop and of cotton on hand on August 1, 1932 and 1933. Although much of the information herein presented has been released in preliminary reports, this is the first publication issued by the Department of Agriculture in which detailed information on this subject is assembled for the United States as a whole for five consecutive years.

STATE ALLOTMENTS UNDER THE BANKHEAD ACT.

States' allotments of the 1935 tax-free quota of 10,983,264 bales under the Bankhead Compulsory Cotton Control Act and terms of the new one-year adjustment contract were announced on March 1 by the Farm Administration.

The new contracts were drawn up by the Agricultural Adjustment Administration to enable non-signers under the 1934 programme to participate in this year's adjustment and in the \$130,000,000 in rental and benefit payments to be distributed. State allotments in terms of 500-lb. gross weight bales are as follows:—

State	Bales, Tax Free Allotment
Virginia	33,478
North Carolina	356,218
South Carolina	633,570
Georgia	919,458
Florida	25,973
Illinois	722
Kansas	397
Kentucky	6,726
Tennessee	355,416
Alabama	930,544
Mississippi	1,155,938
Louisiana	552,372
Texas	3,406,117
Oklahoma	823,387
Arkansas	1,002,277
New Mexico	67,011
Arizona	95,252
California	209,205
Missouri	209,205

THE DOXEY BILL.

According to *Commerce and Finance*, the Doxey Bill has already been passed through the House of Representatives. The Doxey Bill exempts cotton producers, tenants or share-croppers having a basic production of three bales from taxation under the Bankhead Act. A correspondent from the Cotton Belt wrote to us on March 23 last, as follows:—

“The cotton allotment situation has been rendered more bearish by the passage in the House of the Doxey Bill with the exemption for all tenants, share-croppers and owners raised to three bales. As a political measure, motivated by the fact that the tenants and share-croppers in the South have more votes than the landowners, the ones most interested in crop restriction, it has a possibility of passing in the Senate, but might not pass over the veto of the President. If it should become a law, it is likely to nullify the Bankhead law, since the tax-free allotment to tenants and share-croppers would be so great as to leave such a small allotment for the larger planters that they would rise in revolt against the Bankhead law. Some also fear that if the Doxey Bill is passed, an indefinite number of labourers may take on the status of tenant or share-cropper in order to avail themselves of its privileges, and raise a very large crop.”

U.S. COTTON POOL MANAGER IN LANCASHIRE.

Mr. Oscar Johnston, the manager of the Cotton Producers' Pool of the United States Government and one of the leading officials under the Agricultural Adjustment Administration, recently paid a visit to Manchester and Liverpool to discuss with the cotton trade leaders the possibilities of increasing the exports of American cotton to Great Britain. Mr. Johnston has visited several European countries, and on his return to Washington he will make a report to President Roosevelt and to the Secretary of Agriculture, Mr. Wallace.

Mr. Johnston said: “My visit to Manchester and Liverpool is very largely for the purpose of getting acquainted with the cotton trade in England and making as careful a study as I can of the whole cotton situation with a view to reporting to my Government regarding the possibilities of improving trade between the two countries, and endeavouring to increase the importation of American cotton into Great Britain. I am also finding out what is, in the judgment of those best able to tell me, the best way to obtain better trade between the United States and Lancashire users of American cotton.

“I am also here to give the Lancashire trade leaders more accurate knowledge than they seem to have as to what is being done in the United States regarding cotton, and what the effects of the policy of the Department of Agriculture have been.”

Mr. Johnston met members of the Government: later he interviewed the leading officials of the Manchester Cotton Association, and also addressed a meeting of the members of the Liverpool Cotton Association.

"I should like," he said, "to stress the point that I, as representing the Cotton Producers' Pool, am making no effort to sell the present Government holding of cotton. All cotton will pass through the regular channels."

Questioned as to the amount of cotton at present held by the United States Government, Mr. Johnston said: "The Government, through the Cotton Producers' Pool, holds 1,500,000 bales. Under the 12-cent loan to farmers the amount of cotton held under this heading is 4,100,000 bales, making a total of 5,600,000 bales, against which the Government has made advances. This cotton will not be marketed unless it can be sold at a price in excess of 12 cents per lb., and it will only be sold at the discretion of the various borrowers. I should like to stress this fact and tell the Lancashire cotton trade that the Government will not allow any of the cotton to be sold unless it brings a price in excess of the loan value."

U.S. COTTON POLICY—PROGRAMME OF CROP REDUCTION TO GO ON.

Mr. Roosevelt discussed the cotton situation at a recent meeting with Congressional leaders and chiefs of the Department of Agriculture, including Mr. H. A. Wallace, Mr. Chester Davies, and Senators Bankhead and Smith.

The Congressional leaders after the conference said that there would be no change in the Administration's policy of carrying forward the reduction programme in order to eliminate the surplus. Asked about the continuance of Government loans to the producers, Senator Bankhead said: "Producers will be carried right along, although it is too soon to announce the loans for next year."

Senator Smith said that the policy of the Government to maintain parity prices for producers will not be abandoned and that whatever is done next year will be along the lines of taking care of the producers.

1935 COTTON REPORT DATES.

The U.S. Department of Agriculture has issued the following schedule of release dates for reports on cotton in 1935. U.S. and State data is released at 11 a.m., eastern standard time:—

- May 22:* Revision of acreage, yield per acre and production of cotton produced in the previous season; also reduction from the full yield per acre due to boll weevil and other causes.
- July 8:* Report on the acreage of cotton in cultivation on July 1.
- Aug. 8:* Report as of August 1 on condition, indicated yield per acre, and indicated total production.
- Sept. 9:* Report as of September 1 on condition, indicated yield per acre, and indicated total production; also an estimate of the acreage of cotton abandoned since July 1.

- Oct. 8:* Report as of October 1 on condition, indicated yield per acre, and indicated total production.
- Nov. 8:* Report as of November 1 on yield per acre and probable total production.
- Dec. 9:* Report as of December 1 on yield per acre and estimated total production; also estimated acreage of cotton abandoned since July 1.

COTTON GROWING IN U.S.A. UNDER THE NEW DEAL.

Commenting upon the activities of the United States Department of Agriculture with regard to the production of cotton, the Department of Overseas Trade report upon "Economic and Trade conditions in the United States," by Mr. H. O. Chalkley, contains the following statement:—

The cotton acreage contracts which growers signed for the 1934 crop stipulated a 40 per cent. reduction in acreage from the 1928-32 base period with the proviso that the Secretary of Agriculture could enforce the same contracts for the 1935 crop but with a reduction of not more than 25 per cent. from the base period. Partly owing to drought conditions actual production reached only 9,731,000 bales in 1934. The Secretary of Agriculture has proclaimed that the contracts will be continued in effect for 1935, and he has called for a 25 per cent. reduction in cotton acreage on the part of the signatories below the base period acreage. He has, however, agreed to accept leases on land up to an additional 5 per cent. Rental payments will be made at the rate of 3½ cents per lb. on the average yield of lint cotton per acre, during the base period, of leased land up to a maximum of \$18 per acre. The programme will be financed by a continuation of the present processing tax of 4.2 cents per lb. on raw cotton. The disbursements in 1935 will, it is estimated, amount to \$94,000,000. The base acreage of producers who are signatories to the contracts is approximately 38,210,000 acres and it is estimated that, during 1934, producers who did not participate in the plan planted some 6,000,000 acres. Assuming that some of these non-participants sign contracts for 1935 it is estimated that the total land planted to cotton will be approximately 34,400,000 acres as against 28,000,000 acres in 1934. Based on average yield and normal weather conditions production will be approximately 12,000,000 bales, provided the Bankhead Cotton Control Act is continued in effect for the crop year 1935-36, or 13,000,000 bales if the Act is allowed to lapse. A referendum on the extension of the Act was taken in December, 1934, and if the results show that two-thirds of cotton producers are in favour of its continuance the Secretary of Agriculture will then determine the amount of the commodity which may be marketed tax free in the coming crop year. Early in 1934 the United States Bureau of Agricultural Economics began a study of cotton problems in various countries so that the long time cotton control programme in the United States might be adapted to future trends in foreign countries.

Evaluating the Cotton Programme.

Address delivered at the Cotton Crisis Conference, held recently in Dallas and sponsored by the Institute of Public Affairs at Southern Methodist University. Dr. Cox is director of the Bureau of Research of the University of Texas.

Difficulties of correctly evaluating so far reaching an experiment as the Federal Government cotton programme at such close range and on so short a time of operation are well appreciated. On the other hand, it is recognized also that the welfare of millions of people are involved and that time is extremely important. Two years of statistical data are inadequate to measure trends, but if there are no more it is necessary to make the best of what there is. It is necessarily a matter of watching the straws to see which way the wind blows, in order that proper adjustments may be made at the earliest time possible.

Stated briefly, my interpretation of the objectives of the Government cotton programme are: To raise the buying power of the cotton growers up to the 1909-14 level, and to increase the security of that income to the cotton growers. Certainly those in the South will agree that the objectives are laudable but none too generous in view of the general increases in the standards of living since the base period. However, under the circumstances, I am willing to accept the objectives insofar as the cotton growers are concerned. Stated more concretely, this means a money income equal to 14.50 cents per lb., or parity price times 14,500,000 bales of cotton which is parity production. Increased security means putting the cotton growers in a position that will give greater certainty of continuance of the above described income.

Having agreed on the objectives for the farmers, we shall next evaluate the programme for attaining those objectives. A correct evaluation involves an analysis from both the short-time or emergency point of view, and the net gains for the long pull.

The Government has sought to attain the above objective, primarily through two avenues: First, the reduction of supply to raise price; and second, the making of benefit or supplementary payments.

Success of the Federal Government's cotton restriction programme to reduce supply in order to raise the price as an emergency measure depended on the rapidity with which foreign cotton production could be increased and the degree of substitution of other materials for cotton, especially synthetic fibres. Under the operation of the Farm Marketing Act and the Farm Board the United States Government had been instrumental in building up a huge supply, so-called, "surplus," of American cotton beginning in 1929. The present administration, through the Agricultural Adjustment Act, proposed to get rid of this surplus in a one-year and not to exceed a two or three-year drastic cotton reduction programme.

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Accordingly, during the summer and fall of 1933 the Government leased growing cotton acreage and ploughed under cotton estimated to produce about 4,500,000 bales. During the present season the Government has leased land calculated to produce on the basis of this year's average yield about 4,200,000 bales. Thus, during the past two crop years the Government has taken out of harvest about 8,700,000 bales of American cotton. During the same past two years foreign production has increased about 4,200,000 bales and world consumption this year compared with last will be down about 800,000 bales so that the total decrease in the world supply of all cotton from August, 1933, to August, 1935, will be only about 1,800,000 bales. In other words, during the two cotton years ending July 31, 1935, the cotton farmers of the United States reduced their production 8,700,000 bales, yet the world's supply August 1, 1935, will have been reduced only 1,800,000 bales from August, 1933. Has it paid?

The measure of whether the cotton reduction programme of the United States has paid as an emergency measure will depend on how much the price has been raised, and why it has been raised. Much confusion exists as to why cotton prices have gone up in the United States from 6.49 cents, the average price of middling $\frac{7}{8}$ inch spot cotton in New Orleans during the harvest months of September, October, November, and December, 1932, to 12.73 cents, the average price for similar cotton for the same period in 1934.

Broadly speaking, the forces which make the price of cotton can be divided into two groups. The first of these, the ones we usually think of, are the forces of supply and demand. Normally they are the most important, but not always. The second group of factors are those affecting the value of money. The main objective here is to determine the effect of changing supply and demand on cotton prices, especially changes in supply.

American cotton prices are world prices. This means that the price of American cotton under normal conditions is the same at any one market as at all other markets using American cotton when the cost of marketing from point of origin is taken into account. More specifically, this means that the price of cotton in Harve, France, Bremen, Germany, or Liverpool, England, is the same as at New Orleans, or Houston, Texas, or any other market in the South less the cost of marketing cotton from any point in the United States to those foreign markets.

Let us study the French gold price of American cotton to determine what effect supply and demand conditions have had on the price. France quotes cotton prices in terms of francs per 50 kilogrammes. During the harvest months of September, October, November, and December, 1931, the average weekly price was 211 $\frac{3}{5}$ francs. For the same period in 1932 it was 231 $\frac{1}{9}$ francs, for 1933, 213 $\frac{6}{17}$ francs, and for 1934, 253 $\frac{2}{9}$ francs. The equivalent prices of these francs in American cents in terms of our old gold dollar are 7.54 cents in 1931, 8.19 cents in 1932, 7.54 cents in 1933, and 9.03 cents in 1934.

The remarkable thing about the above figures is that they show that the world gold price of cotton to date has advanced less than 20 per cent. since 1932, the low of the depression, and that in

1933 the gold price of cotton was actually about 8 per cent., or 65 points lower than it was in 1932. Is it possible then that approximately 80 per cent. of the advance in the price of cotton in the United States has been due to the decline in the value of the dollar and not to changes in supply? The above figures indicate that is exactly what has happened . . . Is it a mere coincidence that dollar prices are up 40 per cent. on the franc price at the same time American money has declined to only 59.06 per cent. of the old gold dollar value? . . .

In order to convert the present price of cotton into equivalent 1932 gold value, multiply the present price by 59.06 per cent. New Orleans spot price of cotton was quoted at 12.56 cents on January 15, 1935. Its equivalent in gold in terms of the old gold dollar, or the 1932 price, is 7.42 cents. The actual New Orleans spot price was 6.58 cents in January, 1932. In other words, the portion of the advance in the price of cotton from 6.58 cents in 1932 to 12.56 cents in 1935 due to the decline in the gold value of the dollar is approximately the difference between 7.42 cents and 12.56 cents, or 5.14 cents. The net advance due to supply and demand conditions is the difference between 6.58 cents, the price in 1932, and 7.42 cents, the equivalent gold price January 15, 1935, or 84 points, or less than 1 cent per lb. In other words, stated frankly and bluntly, the Government cotton reduction programme cannot be given credit for more than 84 points in the dollar advance in the price of cotton since 1932 and that we have 12.56 cents cotton now instead of 7.42 cent cotton because we have a 59-cent dollar. . . .

It is certain that not all of the 84 points is due to forced reduction of supply. Let us grant, though, for argument's sake, that the total advance in the world gold price of cotton of 84 points has been due to the Federal Government's cotton reduction programme; the next question is, has it paid even granting that? Let us see. According to official figures, the AAA has kept out of harvest during the past two years a little over 8,700,000 bales of American cotton. By so doing we have granted that they have raised the gold price of American cotton 84 points on the 22,778,000 bales actually harvested. . . . The 84 points times the 22,778,000 bales equals about \$96,667,000. Now suppose the United States had not ploughed up any cotton in 1933 or kept any out of cultivation in 1934, and that the production of the extra 8,700,000 bales would have caused the gold price to go down as much as the reduction of it caused the gold price to rise; that is, the full 84 points even accumulative for 1934-35. The two crops in that case would have sold for more dollars than they actually sold for. Moreover, we would have kept many of our cotton pickers, workers in gins, cottonseed oil mills and many others off relief rolls. World textile mills, especially our own, would have been far more active and all the people better clothed. We would have kept foreign production down and strengthened out position in world markets instead of losing them as we have.

In the light of figures cited above, it seems evident that the cotton reduction programme to raise prices did not work, and that it is probable that even as an emergency it has done more harm than good. . . .

When time and experience have written the full history of all items of the Government's cotton programme it is probable that the cotton processing tax of 4.2 cents per lb. on cotton delivered at the mill will have been found to have done more lasting harm than any other item in the programme. The most obvious need of the cotton industry was for wider markets. The processing tax through raising the price of goods is restricting cotton consumption. What is still more serious, the processing tax serves as an indirect subsidy for products competing with cotton goods, especially synthetic fibres.

The processing tax is the worst sort of a sales tax. It is put on at the mill and has to be pyramided through at least three agencies before the consumer finally pays it.

It is difficult to conceive of a tax that costs more and pays less in proportion. The public pays it four times. In the first place the consumers pay the 4.2 cents pyramided when they buy the cotton goods. In the second place an equivalent tariff is put on all imported cotton goods and to the extent the public buys such goods it pays on them. In the third place the tax money collected is used to pay farmers to restrict supply to raise price which, if it works, will further raise the price of cotton goods and so the public pays again. In the fourth place the restriction of cotton production with the use of the tax money to make benefit payments to restrict cotton acreage has been the biggest factor in the South, throwing hundreds of thousands out of work and on the relief rolls. The public has to pay again and heavily in higher taxes to take care of those on relief.

The processing tax falls heaviest on those least able to pay because it is heaviest on coarse heavy goods, the ones poor people buy.

In the case of any commodity produced for a world market there are two fundamental reasons why enforced restriction of supply to raise price will not work as a long time programme: In the first place such a programme stimulates foreign production and in the second place it restricts demand and invites substitutes. Modern developments indicate that American cotton is far more vulnerable to attacks from both of those avenues than seemed possible even two years ago. As has already been pointed out official figures indicate that the Government has reduced American production 8,700,000 bales during the past two years and that during the same time foreign production increased about 4,200,000 bales. In other words to date under the programme American cotton growers have reduced their harvests two bales to reduce the world's harvests one bale. What to my mind is far more significant, world supplies have been reduced far less than production due largely to restricted consumption. The world supply of cotton July 31, 1933, was 16,255,000 bales and indicated supplies July 31, 1935, are about 14,450,000 bales, a reduction of only about 1,800,000 bales, which means we have reduced American production about 8,700,000 bales to get a reduction of 1,800,000 in world supplies of all cotton, about 4 to 1.

Prior to the inauguration of the Government cotton restriction programme the United States produced normally about 57 to 60 per cent. of the world's supply of cotton. This year the United

States production is about 43 per cent. of the world total. The United States has voluntarily relinquished its position of commanding importance over world production of cotton to one of secondary importance compared with the total of the rest of the world. . . . It is impossible yet to measure the cost of this restriction programme to the South and especially to the cotton growers. In the past America's share of world production of cotton was sufficiently large that the size of its crop dominated price movements. Thus in years when we had a big crop we had large volume to offset low prices and when we had a small crop we had high prices. With the rest of the world producing over 50 per cent. of the supply it is possible for us to have a low yield and a comparatively low price at the same time. Thus the smaller our proportion of the world's cotton crop becomes, the greater the fluctuations in the size and uncertainty of our income from cotton. . . .

Contrast the gloomy outlook for American cotton with the prospect for foreign growths. Millions of spindles which were built to spin American cotton are now having to be adjusted to spin foreign cotton. Foreign growers are increasing their volume which increases the dependability of their supply, enables them to classify their cotton into more even-running lots, to lower costs of production and marketing, and to build up good will.

Texas Weekly.

THE SALE OF COTTON IN THE SEED IN OKLAHOMA.

The practice of selling cotton in the seed in Oklahoma is most prevalent in the eastern and north-eastern portions of the State, where there are areas of relatively heavy production as well as fringe areas of sparse production. The practice is on the increase more in the areas of heavier production toward the east central part of the State than in the fringe areas. The farmers in these areas of high percentage of sales of cotton in the seed, haul to the gins a relatively large number of loads of seed cotton of sufficient size to gin bales of cotton. Nevertheless, these farmers generally elect to sell these loads in the seed rather than to gin them and sell the baled lint and seed separately, as is the normal practice in the greater portion of the Cotton Belt.

In the areas of high percentage of sales of cotton in the seed, the quality of cotton is higher both as to grade and to staple, and more improved varieties are grown, than in the other areas of the State.

It was understood that the cotton ginners' code formulated in 1933 prohibited the purchasing by the ginners of seed cotton from the growers, but it is a matter for regret that the ginners' code was not adopted.

The abolition of the practice of selling cotton in the seed would be to the advantage of the spinners who consume the cotton. It would eliminate mixing various grades and staple lengths in the cotton house and the ginning of mixed bales of cotton in which there is excessive waste in spinning. In a community where the cotton is comparatively uniform in grade and staple lengths, this is not a serious objection; but where many varieties of cotton are produced under varying soil and moisture conditions and are mixed in the cotton house, it inevitably results in bales that are not uniform in quality. This in turn results in losses to the spinner.

SEA ISLAND COTTON.

Issuance of a report of the United States Bureau of Census estimating the annual crop of Sea Island cotton at only 10 bales, again draws attention to the virtual certainty of complete extinction in the near future, of this pre-eminent long-staple cotton. Production has declined from a peak of 119,000 bales in 1911, the boll weevil having caused this cotton's virtual disappearance.

In connection with the disappearance of this profitable staple the story is told that as early as 1916 a representative of the U.S. Department of Agriculture warned the Sea Island planters that they had better prepare to grow something else, as the area would soon be infested by the boll weevil. The longer time required to ripen the choice staple then being grown, it was pointed out, gave the weevil opportunity to complete its work of destruction, with the prospect that the result would be more disastrous than in other sections of the South where it had already worked havoc.

Sea Island cotton is still grown in the West Indies in sufficient quantities to meet the reduced world demand.

At Trenton and Madison, Florida, several hundred acres of Sea Island cotton will be planted in 1935. The planting will be under the supervision of experts in weevil control and satisfactory yields are expected with average seasonal conditions prevailing.

On account of Sea Island cotton not being under the acreage control laws, farmers are more interested in making the effort to re-establish this once profitable crop. The crop of Sea Island cotton in the United States, which reached a record low level of approximately 20 bales in 1934, is expected to be increased to more than 100 bales in 1935. The 1934 crop sold at an average price of 28 cents per lb., which compared with approximately 12 cents per lb. received for Upland cotton.

AVERAGE BALE WEIGHTS OF AMERICAN COTTON

Handled at ports and overland, August 1 to close of January.

Compiled by Mr. Henry Planche, Secretary, New Orleans Cotton Exchange.

	Number (in bales)	1935		1934	
		Weight (in lbs.)	Average weights	Average weights	
Texas	2,381,760	1,263,618,930	530.54	534.32	
Louisiana	865,466	459,891,323	531.38	525.48	
Alabama, etc.	172,233	90,374,100	524.72	516	
Georgia	111,397	56,166,367	504.20	515.01	
South Carolina	126,135	63,319,770	502	510	
North Carolina	14,422	7,023,514	487	485	
Virginia	41,771	20,885,500	500	500	
Tennessee, etc.*	472,759	246,430,356	521.28	524.48	
Total 6 months	4,185,943	2,207,709,880	527.41	530.95	
Aug., Sept., Oct., Nov. and Dec.	3,815,139	2,016,300,291	528.50	530.95	

*Average weights based on returns from Memphis and St. Louis. Memphis average 522.61 against 525.73 last year; St. Louis 510 against 512.

The Cotton Situation in America.

We quote the following from a recent report of *Messrs. Reynolds & Gibson*, Liverpool:—

The uncertainty with regard to the agricultural programme towards our commodity continues, and beyond the fact that Secretary Wallace has announced that the 12-cent. loan will be extended for the present crop after July 31, without fixing any particular date, and that the growers of the next crop will receive adequate support to enable them to market their product in an orderly fashion, nothing has been officially declared. True, propositions are being put forward by various Senators which, if carried into effect, would create the same situation next year as has existed in the past months, but this is a very different thing to definite measures sponsored by the Administration. One subject over which considerable argument has been experienced is the continuation or otherwise of the processing tax. This is regarded most unfavourably in very many quarters, and is undoubtedly the cause of a good deal of dissatisfaction and of the poor conditions in the textile industry. On the other hand, the Government seems unwilling to find the money from any other source, and, of course, the cost of the restriction campaign would have to be defrayed from somewhere. The dearness of the manufactured article overseas, owing to this tax, is greatly curtailing the demand for goods, and the result is that considerable efforts are being made to bring about a 25 per cent. reduction in output. The whole situation is most uneconomic and unsound. Rumours are afloat that, gravely disturbed as the Administration undoubtedly is over the severe drop in exports of cotton, which now are running close on 2½ million bales less than last year, efforts are being made to induce other producing countries to meet in conference with the object of coming to some agreement as to stabilizing production and exports from each producing area. It would seem most unlikely to us that success would attend any such conference if held, for the price at which the American Government has artificially held our commodity has proved most satisfactory in all other quarters, with the result that production has been expanded wherever possible. It can hardly be anticipated that a change from this is probable. Of course, the American Government may be forced to adopt, owing to political pressure, a suggestion emanating from various Senators, namely, to subsidize exports, or, in other words, have an export tax, and dump their cotton abroad to the detriment of growers of other varieties. This, of course, would be an extremely bad move for the latter, but, on the other hand, it must not be forgotten that it would put spinners and manufacturers outside the United States in possession of much cheaper raw material, with a consequent result that the textile industry in the United States would be put practically out of business, unless their already lofty tariffs were made even higher still, and this would be to the great disadvantage of the consumer there, who would have to pay almost prohibitive prices for his needs. We cannot conceive the American Government agreeing, without a profound struggle, to a step fraught with such general harm.

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TWELVE CENT LOAN.

The United States Secretary of Agriculture announced recently that the 12 cent loan on the 1934 crop would be extended beyond the original date of July 31, 1935. Concerning the loan on the 1935 crop, Secretary Wallace stated that the Administration proposes to provide adequate facilities to permit growers to pursue a policy of orderly marketing. No definite lending price was mentioned.

MONTHLY FARM PRICES OF COTTON, 1910-34.

Year beginning August.	(U.S. averages, cents per lb.)												Weighted
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Avg.
1910 ..	14.4	18.8	13.6	14.0	14.2	14.4	14.1	13.9	14.0	14.4	14.5	13.8	14.0
1911 ..	12.5	11.0	9.6	8.8	8.6	8.7	0.4	10.0	10.5	11.0	11.1	11.6	9.6
1912 ..	11.6	11.2	11.0	11.4	12.0	12.0	11.8	11.8	11.7	11.6	11.6	11.6	11.5
1913 ..	11.6	12.6	13.2	12.6	12.0	11.8	12.2	12.2	12.0	12.3	12.4	12.4	12.5
1914 ..	10.6	8.2	7.0	6.6	6.7	7.0	7.4	7.5	8.6	8.8	8.6	8.4	7.4
1915 ..	8.3	9.8	11.4	11.4	11.4	11.4	11.3	11.3	11.5	11.8	12.4	12.6	11.2
1916 ..	13.6	15.0	16.8	15.5	15.4	17.0	16.4	17.0	18.4	19.6	22.4	24.5	17.3
1917 ..	23.8	23.4	25.3	27.5	28.3	29.3	30.0	31.0	30.2	28.0	28.0	28.2	27.1
1918 ..	30.0	32.0	30.6	28.4	25.2	26.8	24.4	24.2	25.2	27.8	30.3	31.8	28.9
1919 ..	31.4	30.8	33.9	36.0	35.8	36.0	36.2	36.8	37.5	37.4	37.3	37.1	35.4
1920 ..	34.0	28.3	22.4	16.6	12.7	11.6	11.0	9.8	9.4	9.6	9.7	9.7	*15.9
1921 ..	11.2	16.2	18.8	17.0	16.2	15.9	15.7	16.0	16.0	17.8	19.6	20.6	*17.0
1922 ..	20.9	20.6	21.9	23.1	24.2	25.2	26.5	28.0	27.6	26.2	25.9	24.8	*22.9
1923 ..	23.8	25.6	28.0	29.9	32.1	32.5	31.4	27.7	28.7	28.1	27.8	27.8	*28.7
1924 ..	27.8	22.2	23.1	22.5	22.2	22.7	23.0	24.5	23.7	23.0	23.0	23.4	*22.0
1925 ..	23.4	22.5	21.5	18.1	17.4	17.4	17.6	16.5	16.6	16.0	16.1	15.4	*19.6
1926 ..	16.1	16.8	11.7	11.0	10.0	10.6	11.5	12.5	12.8	13.9	14.9	15.5	*12.5
1927 ..	17.1	22.5	21.0	20.0	18.7	18.6	17.0	17.8	18.7	20.1	19.7	21.0	*20.2
1928 ..	18.8	17.6	18.1	17.8	18.0	17.9	18.0	18.8	18.5	18.0	17.9	17.8	*18.0
1929 ..	18.0	18.2	17.5	16.2	16.0	15.8	14.8	13.8	14.7	14.5	14.0	11.9	*16.8
1930 ..	11.4	9.0	9.2	9.6	8.7	8.6	9.1	9.6	9.8	8.8	7.7	8.5	*9.5
1931 ..	6.8	5.9	5.3	6.1	5.5	5.6	5.8	6.2	5.7	5.2	4.6	5.1	*5.7
1932 ..	6.5	7.2	6.4	5.9	5.4	5.6	5.5	6.1	6.1	8.2	8.7	10.6	*6.5
1933 ..	8.8	8.5	9.0	9.6	9.6	10.3	11.7	11.7	11.6	11.0	11.6	12.3	*10.7
1934 ..	13.1	13.1	12.5	12.3	—	—	—	—	—	—	—	—	—

* Crop year average prices, by States, weighted by production to obtain weighted averages for the United States, 1918-34.

† Preliminary

STATEMENT OF FERTILIZER TAGS SOLD IN COTTON STATES.

For seven months from August to February, both inclusive.

(Officially reported by Agricultural Bureaus and State Boards)

(Seven months ending close of February)

	1935	1934	1933	1932
	Tons	Tons	Tons	Tons
Georgia ..	183,749	159,217	44,234	58,086
North Carolina ..	330,023	264,472	186,431	160,644
South Carolina ..	211,252	219,624	101,715	106,297
Alabama ..	91,550	91,600	35,800	33,800
Tennessee ..	35,205	29,701	19,566	19,983
Arkansas ..	17,653	17,875	4,850	7,550
Louisiana ..	51,201	51,028	28,601	32,510
Mississippi ..	34,922	47,375	15,785	21,007
Texas ..	36,983	31,601	17,268	24,980
Oklahoma ..	3,810	3,670	1,800	6,144
Ten States ..	996,350	918,163	466,050	471,001

Increase in ten states over last year. 80,187

Increase in ten states over year before last 530,300

Increase in ten states over 1932 525,349

WEEVIL DAMAGE POSSIBILITIES INCREASED.

Although a relatively smaller number of weevils entered hibernation in the fall of 1934 on account of unfavourable breeding conditions during the late summer and fall months, relatively low temperatures since January 1 have retarded early season emergence from hibernation and initial infestations may be heavier than usual. Normally periods of high temperatures during the period January 1 to March 20 force a large number of weevils to emerge from hibernation and die of starvation before green cotton is available for food. The relatively late emergence from hibernation this spring, along with the late start of the crop in the southern third of the Belt, may be expected to enhance weevil damage possibilities.

ACREAGE UNDER COTTON.

The American Cotton Crop Service published the following statement in one of its recent reports:—

The Government's report on "Intentions to Plant," as of March 1, shows clearly the trend to grain, sorghums and soybeans, fairly large acreages of beans and peanuts, about the usual acreages of potatoes, sweet potatoes, oats, barley and rye, and moderate or below average acreages of most other field crops. The report covers crops other than cotton and is not intended as a forecast of actual acreage, but represents farmers' intentions to plant as of March 1. In the Cotton Belt corn is the chief competitive crop of cotton, and in normal years when corn acreage is increased or decreased, cotton acreage changes proportionately in the opposite direction. This season artificial factors such as cotton acreage and corn-hog reduction programmes indicate only slight increases in cotton acreage. For the past several years the close correlation between corn and cotton acreages has enabled us to forecast cotton acreage change with an amazing degree of accuracy. However, with most cotton growers already signed for cotton acreage reduction of 25 per cent. or more, the "Intentions to Plant Report," as of March 1, throws little or no light on the cotton acreage situation.

Replies to a recent questionnaire by our crop observers indicate little or no disposition on the part of non-contract signers to attempt to grow cotton without a contract in 1935. In fact, a large number of replies state that the non-contract signers became so disgusted trying to dispose of their 1934 production that they have either signed the one-year contract or decided not to plant cotton at all during the coming season. While it is too early to draw any definite conclusions on the cotton acreage situation, and no light is shed by the "Intentions to Plant Report" as of March 1, we believe our best indication points to approximately 33,000,000 acres. This figure is arrived at by the statement of the Agricultural Adjustment Administration that contract signers are expected to

have a cotton base of 39,210,000 acres from which 25 per cent. will be deducted and that the approximately 4,000,000 acres planted by non-contract signers last year will be reduced to approximately 3,000,000 acres this season most of which will come under the 25 per cent. reduction programme. Our reports indicate that many farmers who planted 100 acres or more last season under the impression that they would find some method of avoiding the tax, will plant no cotton this season or sign the one-year contract.

RESEARCH WORK IN U.S.A. COTTON PRODUCTION.

Energetic steps are being taken to further the development of technical information as to the spinning value of various American cottons, plant breeding information, and the investigation and assembly of allied data and material by the sponsors of two appropriations contained in the Agricultural Appropriations Bill reported recently to the House of Representatives.

One of the appropriations, if approved, would provide for the establishment of a laboratory for testing cotton fibres, and the development of similar information, at Texas Agricultural College, under the Bureau of Agricultural Economics. It is for \$55,000. The other, of \$200,000, is for the Bureau of Plant Industry, and would increase its budget in order that it might expand its work at Clemson College, South Carolina, in the conduct of researches in co-operation with other state agricultural colleges of the South into the breeding of cotton and the culture of seed.

The proposed appropriations are in excess of the budget estimates, but are regarded as so vital to the cotton and textile industries that the House committee recommended them as justified.

GLEANINGS FROM HERE AND THERE.

The world gold price is up less than a cent a lb. from the average in the fall of 1932. It cannot be too strongly emphasized that the advance in the price of cotton in the United States has been due very largely to the fact that the dollar is worth only 59.06 per cent. of its 1932 value.—(*Dr. A. B. Cox, the eminent Texas economist.*)

* * *

“As long as we (the United States Government) are loaning them (the cotton farmers) the market value of their cotton and as long as our Government is willing to pile up millions of bales under the A.A.A., it is vain to hope that we can compete with other cottons sold in a free world market at 5 to 7 dollars a bale below our artificially imposed price.”—(*Mr. J. W. Evans, President Houston Cotton Exchange, at the Foreign Trade Convention recently held in U.S.A.*)

* * *

Our (the U.S.) Government may continue the policy of crop control, loans, etc., for some time to come, but it cannot continue such a policy indefinitely. The question which concerns every American citizen, especially the cotton farmer, is—What is going to happen when the load becomes top-heavy and the Government is forced to abandon the present experiments?—(*Mr. John H. McFadden, junior, President of the New York Cotton Exchange.*)

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Of interest to the trade, and more especially to cotton men outside the United States, was the announcement recently by Senator Bankhead concerning continuing the Cotton Compulsory Control Act during the 1936-37 cotton year. We quote Senator Bankhead as follows: "In a short time, with the approval of the administration, a new Bill will be presented to Congress to continue the Cotton Compulsory Control Act for the year 1936-37. We cannot afford to take a backward step in the programme for reducing the carry-over, and we cannot permit, if it is possible to avoid it, the reduction in the purchasing power of the great mass of cotton farmers."

GEOGRAPHICAL DIVISION OF EXPORTS OF COTTON.

Week ending Friday, March 22, 1933

					Since August 1 This year	Since August 1 Last year
Great Britain	..	..	..	..	583,753	1,067,385
France	..	..	..	..	302,820	681,604
Germany	..	..	..	..	313,436	1,183,977
Holland	..	..	..	..	54,814	94,214
Belgium	..	..	..	..	55,630	105,269
Russia	..	..	..	..	—	30,224
Denmark	..	..	..	..	33,889	32,238
Norway	..	..	..	..	5,888	5,961
Sweden	..	..	..	..	55,472	52,475
Portugal	..	..	..	..	27,428	39,952
Spain	..	..	..	..	179,624	214,373
Poland	..	..	..	..	132,193	165,361
Italy	..	..	..	..	364,542	534,633
Greece	..	..	..	..	61	521
Japan	..	..	..	..	1,236,810	1,425,464
China	..	..	..	..	100,288	218,958
Mexico and P. Rico	..	..	..	..	199	2,590
British Columbia	..	..	..	..	7,028	7,531
Finland	..	..	..	..	3,254	3,100
India	..	..	..	..	20,348	18,653
South Africa	..	..	..	..	410	3,509
Nassau	..	..	..	..	88	—
South America	..	..	..	..	4,238	9,529
Martinique	..	..	..	..	3	1
Bulgaria	..	..	..	..	89	350
Latvia	..	..	..	..	450	350
French Indo-China	..	..	..	..	—	100
Philippine Islands	..	..	..	..	96	300
Austria	..	..	..	..	—	100
Estonia	..	..	..	..	584	725
Canada, etc.	..	..	..	..	159,199	183,377
Roumania	..	..	..	..	140	1,000
Australia	..	..	..	..	—	400
British India	..	..	..	..	242	—
Mozambique	..	..	..	..	2	—
Total, including shipments to Canada					3,643,018	6,084,224

COTTON: ESTIMATED COST OF PRODUCTION, BY SELECTED STATES AND REGIONS, 1933¹ (U.S. Department of Agriculture, Washington.)

State and region	Average gross- weight of lint per bale	Average yield of lint per acre ^a	Produc- tion of lint in 500 lb. bales	Gross cost per acre							Credit per acre for cotton- seed	Net cost of lint				
				Pre- pare and plant ^a	Culti- vate and hoe	Har- vest ^b	Ferti- lizer and manure	Seed	Ginning	Mis- cella- neous		Land	Total	Includ- ing rent	Exclud- ing rent	Per lb.
	1,000 bales	Pounds	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Cents	Cents	Cent
STATES																
North Carolina	1,090	684	314	3.54	6.54	5.74	4.31	0.60	2.34	4.74	30.05	25.00	21.25	8.8	8.8	8.8
South Carolina	1,379	735	260	3.51	4.71	5.05	3.74	.60	1.84	3.15	29.26	24.84	20.50	8.8	7.2	7.2
Georgia	2,147	1,105	257	3.75	4.63	5.13	2.96	.60	1.84	3.15	25.00	21.35	18.52	8.8	8.1	8.1
Alabama	2,378	969	251	3.62	5.01	5.46	2.23	.60	2.06	4.08	20.20	16.68	13.48	9.2	7.4	7.4
Tennessee	884	443	251	3.02	3.31	3.85	1.23	.60	2.06	4.08	20.20	16.68	13.48	9.2	7.4	7.4
Mississippi	1,159	203	3.06	3.06	5.20	4.47	1.01	.77	2.07	4.50	23.86	20.01	18.05	10.2	10.2	10.2
Louisiana	1,477	184	3.23	3.23	5.55	4.47	.70	.65	1.64	3.38	24.00	20.80	17.32	13.8	10.1	10.1
Arkansas	1,477	202	3.43	3.43	5.12	4.06	.60	.56	2.02	4.48	23.82	20.46	16.08	10.1	7.9	7.9
Oklahoma	2,015	1,266	217	3.40	3.27	5.67	1.10	.56	2.08	3.10	10.82	22.30	17.02	13.83	7.8	6.4
Texas	1,488	4,428	163	3.40	3.40	4.35	.17	.60	2.10	3.03	10.15	22.58	16.67	12.64	8.0	6.4
Regions																
Coastal Plain ^d	2,000	2,487	223	3.25	4.62	4.40	2.70	.68	1.83	3.11	23.09	20.56	17.46	9.2	7.8	7.8
Piedmont ^e	1,317	201	3.08	5.03	4.02	4.02	3.40	.64	1.86	3.84	20.00	17.46	10.78	8.6	7.6	7.6
Eastern hilly areas ^f	1,805	231	3.75	4.71	4.60	1.90	.92	.62	1.92	3.84	20.00	17.46	10.78	8.6	7.6	7.6
River bottom areas ^g	2,680	1,467	247	3.03	5.76	4.17	3.50	.63	2.02	3.79	27.45	23.70	18.05	9.6	7.3	7.3
Western hilly areas ^h	2,090	1,467	247	3.14	4.68	4.14	.52	.63	1.70	2.42	20.88	18.47	14.90	10.1	8.2	8.2
Gulf coastal areas ⁱ	1,660	182	3.14	3.14	4.68	4.14	.52	.63	1.70	2.42	20.88	18.47	14.90	10.1	8.2	8.2
Upper coastal plain of Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and the black prairie belt of Alabama and Mississippi.	1,902	1,062	2.21	3.01	4.54	4.54	.13	.01	2.14	1.99	10.72	22.72	17.00	12.51	8.0	6.3
Western dry areas ^j	2,644	203	2.80	2.78	4.78	11.78	.27	.63	4.61	10.38	47.41	22.41	15.50	12.17	7.7	7.0
Irrigated areas ^k	590	487	421	5.22	4.83	4.84	1.07	.03	2.00	2.63	22.46	4.86	12.55	32.86	10.1	7.8
United States ^l	20,955	18,032	218	2.97	4.24	4.84	1.07	.03	2.00	2.63	22.46	2.88	10.55	35.61	9.0	7.2

¹ Preliminary estimates. In computing averages, data were weighted by acreage harvested.

^a Obtained by dividing the production of lint in terms of 500 lb. gross-weight bales, by the average harvested.

^b Includes hauling and spreading manure.

^c Includes picking and snapping cotton (including water).

^d Includes the lower and upper coastal plain of Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and the black prairie belt of Alabama and Mississippi.

^e Includes the rolling and hilly uplands of Virginia, North Carolina, South Carolina, Georgia, and Alabama, which border the Blue Ridge Mountains on the east and south.

^f Includes Tennessee exclusive of Lake County, the hilly cotton lands of northern Mississippi, northern Alabama, and the Red River valley.

^g Includes the hilly lands of Arkansas, Louisiana, and the Red River valley.

^h Includes the dry-land areas of western Oklahoma, western Texas, and eastern New Mexico.

ⁱ Includes the dry-land areas of western Oklahoma, Arizona, New Mexico, and Texas.

^j Includes the irrigated cotton lands of California, Florida, Alabama, Tennessee, Mississippi, Louisiana, Arkansas, Missouri, Oklahoma, Texas, and the 16 States of Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi, Louisiana, Arkansas, Missouri, Oklahoma, Texas, New Mexico, Arizona, and California, which produced 90 per cent. of the United States cotton crop of 1933. (*Crops and Markets.*)

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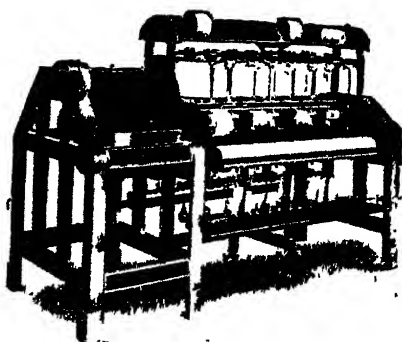
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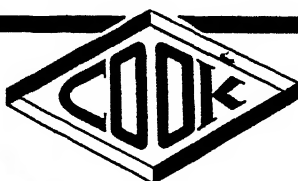
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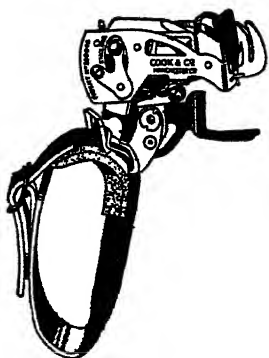


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EGYPTIAN COTTON

HUMIDITY AGREEMENT.

It appears that the notices published on pages 504 and 52 of Nos. 48 and 49 of the INTERNATIONAL COTTON BULLETIN respectively, at the special request of the Egyptian Section of the Joint Egyptian Cotton Committee, have received various interpretations in different quarters.

From information to hand it is obvious that it will be necessary to undertake a careful study of the exact meaning of the Humidity Agreement of 1931. As a consequence, the members of the Joint Egyptian Cotton Committee will be asked to issue a full comprehensive explanation of the above Agreement at its next meeting, which will be held in Milan, on Sunday, April 28th, 1935.

GOVERNMENT GINNING REPORT.

The Egyptian Ministry of Agriculture announces that the cotton ginned in all the factories in Egypt since the beginning of the present season up to the end of February is as follows, in cantars:—

	1935	Previous Report	1934	1933	1932
Sakellandis	803,596	702,596	1,008,521	1,015,563	1,043,311
Long staple varieties ..	1,042,635	900,036	896,970	458,751	419,348
Medium long staple varieties	177,392	160,513	334,893	309,460	244,278
Medium staple varieties	4,489,669	4,033,688	4,924,632	2,414,916	3,618,985
Scarto	137,939	119,051	143,605	97,189	141,825
Total	<u>6,651,231</u>	<u>5,915,884</u>	<u>7,308,621</u>	<u>4,295,879</u>	<u>5,467,747</u>

A Spinning Test Station in Egypt.

By H. A. HANCOCK, Botanical Section, Ministry of Agriculture.

IT is generally conceded that a reliable assessment of quality, when considering new varieties of long stapled cottons, must be based on examination of the yarns into which the cottons are normally spun. In the present state of our knowledge, forecasts of the behaviour of the yarn from examination of the cotton lint alone cannot be regarded as infallible.

This conclusion places the cotton breeder under a serious handicap in carrying out his work; it means that his selections of new cottons must be based in part on the results of "spinning tests"—trial spinnings of samples. Each season's samples must be sent abroad to be spun into yarn, examined and tested, and it is difficult to obtain the results of the tests in time to make a selection for the following sowing season. 5-lb. or 10-lb. samples are normally submitted, the minimum that can be dealt with by orthodox machinery; but this is a large quantity to the breeder with a limited acreage and numerous cottons—all potential successes—passing through his hands in ever-increasing numbers.

To facilitate and expedite this important work of developing new cottons for the Alexandria Market—work which has been carried on for several years at the Ministry of Agriculture's experimental farm at Giza—the Ministry has erected a spinning-test station and laboratory at Giza, organized within the Botanical Section.

The building consists of two floors and covers 35 × 15 metres. Provision is made in its design to overcome the large diurnal variations in temperature and humidity; the lower floor is insulated from the ground by a cork layer, and the windows, walls and roof are double; as a further precaution, the roof can be sprayed or even flooded with water. The relative humidity of the atmosphere inside the building is maintained constant by artificial means; without such control fine spinning and standardized testing would be practically impossible. A grading room is situated on the ground floor, probably the first grading room in Egypt to be maintained at a constant humidity.

Suitable spinning techniques are worked out, and special machinery is being obtained, having numerous unusual features to meet the specialized character of the work. These requirements have little or nothing in common with industrial spinning mills; high rate of production is of negligible importance, and in fact the output of yarn may never amount to a hundredweight in a year. All the yarn spun will be used entirely for examination and testing.

Instead of directing its efforts to the production of large quantities of a few types of yarn, the new station aims, and is specifically

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laid out, to spin small quantities of large numbers of different cottons under rigidly standard conditions. The yarn so produced will be spun by the most modern and simplest methods, with the minimum number of machines.

A cotton lint and yarn testing laboratory is organized in the same building, so that the test data may be presented with the minimum of delay, enabling decisions to be made as to the types suitable for continued propagation in the immediately following season. The lint will be examined with regard to its length of staple, strength and fineness; co-operation will be maintained with the grader. Decisions as to yarn quality will in the first place be based mainly on the results oflea tests 'the weight in pounds required to break a skein of 80 threads', according to spinners' universal practice, but other supplementary tests are projected.

Confirmation and extension of the preliminary tests will be obtained by further spinnings along more elaborate lines. The yarns spun, the twists, and the method of preparation for spinning will be varied so as to obtain the fullest possible information regarding the selected cottons, in what ways they are satisfactory and why.

Such experiments widen the scope of the work far beyond the routine presentation of spinning test data. Cotton yarns are used in industry for widely different purposes, requiring varying characteristics. A cotton eminently satisfactory in a yarn made for a given purpose may be unsuitable in another. The yarn character required to give satisfaction for the different purposes are fairly generally known, but the qualities in the raw cotton required to produce a given class of yarn are less understood, excluding straightforward variants such as colour. These properties will be investigated and accurate methods of measurement must be developed. Progress often consists in numerous small advances; its detection and consolidation is best controlled in such cases by precision testing.

Lack of touch between the various sections of the textile industries has led to much misunderstanding and inefficiency in the past. In the British Isles the great research associations and private research institutions have assisted in increasing the co-operation between spinner and manufacturer, manufacturer and finisher, to their mutual benefit and to the ultimate benefit of the consumer. The laboratory is thus not the least important section of the new station; it is the controlling force, and it provides a means of liaison between spinner and grower. Their interests are by no means antagonistic, it is abundantly proved that high-yielding strains are obtainable by careful selection, without sacrifice of quality.

Should it be found possible to isolate and measure the factors in the lint giving the desired properties in the yarn, deliberate selection in the field for such characters and consequent improvement of quality should be much simplified. At a time when the world's textile industries are examining all kinds of raw materials, natural or synthetic, no country is more concerned than Egypt in the development of the remarkable textile qualities inherent in cotton.

(Egyptian Cotton Year Book.)

ABOLITION OF COTTON TAX.

Towards the end of March the Council of Ministers approved in principle the abolition of the remaining half of the cotton tax. It was imposed, at the rate of P.T.35 per cantar, on April 18, 1920. Cotton was then fetching enormous prices, and farmers refused to grow relatively unprofitable cereals where cotton could be planted. In consequence, there was a serious shortage of foodstuffs in the country and it was very difficult to get supplies from abroad. The Government had to step in and purchase cargoes of wheat, maize, rice and flour, which were sold to merchants at reasonable prices, in an effort to keep down the cost of living. To meet part of the loss on these transactions the cotton tax was imposed. The tax was reduced to P.T.25 and in 1928 to P.T.20. Then, in 1931, after a great deal of agitation, the Sidky Government reduced it to P.T.10, and to compensate the Treasury for this loss an increase was made in the stamp-duty on officials' salaries.

His Excellency Ahmed Abdul Wahab Pasha, the Minister of Finance, stated in his note to the Council that the total proceeds of this tax from 1920 to 1933 amounted to £E.19,750,000, plus £E.800,000, being the estimated proceeds for the year 1934-35.

The note further suggested that the abolition of the tax should be effected as from the beginning of the next financial year, i.e., May 1, 1935, provided that the Ministry took the necessary steps to find other sources of revenue to produce the same amount as that produced by the cotton tax.

The removal of the tax should permit a slightly lower level of prices for Egyptian cotton without in any way affecting its remunerativeness to the grower, and this should be an advantage to Egypt in the long run. Recent movements in cotton prices and recent trends in demand have taken fully good fair Upper Egyptian at Liverpool to a premium of over 100 points above middling American, whereas at the beginning of this month the premium was barely 70 points. A reduction of 25 points in the quotation of Upper Egyptian to reflect the abolition of the tax would go a long way towards reducing the premium to its previous low level, thus restoring to its full strength the incentive to use the Egyptian variety instead of American cotton.

RAYON FOR TYRE FABRICS.

Possibilities of using coarse denier rayon yarn in the manufacture of motor tyres are being actively considered in the United States. Current market reports credit the American Du Pont rayon concern with being the chief experimenter in the tyre fabric field, says the *Journal of Commerce*, New York.

But, the paper adds, it is learned on good authority that the American Viscose Company (Courtaulds) has been extremely active

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in this field for the past three years. Nothing has been said about the production of a commercial tyre fabric made with rayon yarn, and it is understood that the development of such materials is still in the experimental stage.

Several of the big tyre concerns in the United States are reported to be testing out rayon cord-tyre fabrics for truck tyres. It is said that Du Pont Rayon Company is shipping 30,000 lbs. of yarn a week to tyre manufacturers who are developing the new cloths.

The chief factor in favour of using rayon instead of cotton in tyres is said to be superior resistance to heat, and it appears that both long filament and spun yarns are being tried out.

Manchester Guardian Commercial.

EGYPTIAN COTTON CONSUMED IN THE U.S.A.

Month	(Equivalent 500 lb. bales)								
	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35
August	17,029	22,469	19,759	20,285	7,679	5,667	6,398	11,337	7,826
September ..	22,884	19,795	16,267	17,454	7,915	7,006	6,323	8,967	4,514
October	20,812	19,413	20,057	20,107	9,429	6,598	7,858	9,525	10,862
November .. .	16,883	20,507	17,838	18,263	8,980	6,609	7,908	8,990	8,477
December .. .	16,976	19,864	18,003	17,976	10,134	6,509	6,645	6,150	6,803
January .. .	17,297	20,199	22,325	19,646	7,782	6,611	5,998	10,227	8,698
February .. .	17,042	20,435	19,546	17,086	8,377	6,665	6,665	9,251	—
March .. .	21,778	17,112	20,515	13,826	8,774	8,268	7,212	10,706	—
April .. .	19,527	16,466	20,159	18,156	9,763	6,427	6,217	8,552	—
May .. .	22,146	14,943	20,484	15,947	8,630	6,908	9,139	7,380	—
June .. .	26,045	13,951	18,046	13,278	8,898	6,026	9,040	6,284	—
July .. .	21,354	13,480	20,343	11,761	7,740	6,065	9,634	6,006	—
Total .. .	280,878	217,584	232,392	205,765	104,095	79,464	88,805	103,455	—

DATES OF OFFICIAL CROP REPORTS.

The dates for announcing the various cotton crop estimates made by the Ministry of Agriculture have been fixed as follows for the 1935-36 cotton season:—

1935.

- July 15 Estimate of acreage under cotton.
- August 5 Detailed acreage estimate by varieties.
- October 7 First cotton crop estimate.
- December 2 Second cotton crop estimate.

1936.

- June 1 Final cotton crop estimate.

The Commission de la Bourse de Minet-el-Bassal publishes an estimate of the crop on August 31 each year, but it is based on arrivals at Alexandria, and does not take into account cotton left in the interior.

THE POSSIBLE EXTENSION OF COTTON CULTIVATION IN EGYPT.

An article prepared by H.E. Nagib Bey Ibrahim (Ministry of Public Works), which appeared in the *Egyptian Cotton Year Book*, edited by G. Pilavachi, under the above title will be of interest to all spinners of Egyptian type yarns, in so far that it shows the possible extension of cotton cultivation due to work in hand or projected on new irrigation schemes. The author states that there will be an increase of 400,000 feddans to cultivate, land which is at present lying absolutely fallow. There will be added to the cotton area 500,000 feddans by the conversion from basin to perennial irrigation, and a further improvement in the irrigation and drainage of 4,300,000 feddans now under perennial irrigation, with a consequent increase in yield.

CROP & MARKET REPORT.

Messrs Reinhart & Co., Alexandria, writing in their market report under date 5th April, state as follows :—

Since our last Report Alexandria Futures continued to be very steady in sympathy with the spot market. Sellers were scarce and there were only slight price fixings for account of the interior. Speculators were favouring the bull side in spite of the unfavourable political and economic news from abroad and the absence of any serious lead given by New York. New-crop Futures were somewhat depreciated compared to old-crop contracts, mainly owing to increased transfers of hedges to new-crop delivery months.

Ashmouni.—4,000 cantars were tendered through the April contract by firms who were caught short on this delivery month. The docketts were easily absorbed by the trade. As a consequence April futures stiffened and are quoted to-day at a premium of 8 points above June and of 42 points above October delivery.

Spot Market—It was widely expected that premiums would weaken again once the important engagements for March shipment covered, but it now appears that this is not the case. The market is heavily oversold in certain qualities, so that business is much less a question of price than of finding the cotton. The foregoing refers quite particularly to medium grades of Uppers/Zagora, which are practically exhausted.

As regards long staple cotton it now appears that the production has been considerably overestimated at the beginning of the season, as shown by the following figures :—

				Government estimate of 1st October, 1934 Cantars	Arrivals in Alexandria up to 28th March, 1935 Cantars
Sakellaridis	..	..	..	1,242,723	847,919
Giza 7	..	..	..	1,128,396	794,922
Maarad	..	..	..	236,137	182,600
Total	..	..	..	<u>2,607,256</u>	<u>1,825,441</u>

According to these statistics arrivals of long staple cotton during the remainder of the season should therefore be about 800,000 cantars, but according to information received total stocks of all qualities up-country do not exceed 750,000 cantars, of which only about 350,000 cantars of Sakellaridis, Giza 7 and Maarad.

New Crop.—Weather conditions have been rather unfavourable to the development of the young plants. Heavy winds and cold nights were prevailing and some occasional rain showers were reported from various parts of the Delta. Some resowing has become necessary.

Messrs. Cicurel & Barda, Alexandria, report under date April 1st as follows :—

Harvest.—According to information received throughout the month, the area under cotton will be about the same as last year.

Weather.—Has been generally favourable all over the belt.

Preparatory Farm Work and Sowing—Preparation of the soil is over throughout the country, operations having been facilitated by favourable weather conditions.

Sowing is practically finished in Upper Egypt and Southern Delta, while, in the North, seed is also being put into the ground at a fast rate. Generally, sowing operations are 10 to 25 days earlier than normal, as last year.

Re-sowing.—Of insignificant importance.

Germination.—Is satisfactory and rather early on account of the favourable weather conditions.

Varieties Sown.—It is confirmed that Sakel leads the way in most of the districts where its cultivation is satisfactory. Follow, by order of importance, Zagora, Giza 7, Maarad, Pilion and Nahda.

Latest advices indicate that *Maarad* has gained some advantage over Giza 7 in Charkieh province, and over Sakels and other varieties in the Gharbieh provinces. No new varieties are reported so far. No complaints have been heard about the quality of the seed used for sowing.

Irrigation.—The water supply continues to be adequate.

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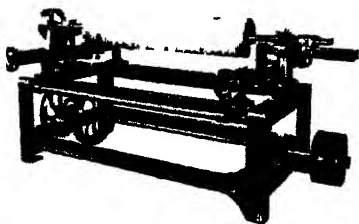
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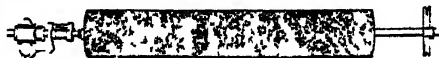
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EAST INDIAN COTTON.

OFFICIAL CROP REPORT.

FINAL GENERAL MEMORANDUM ON THE COTTON CROP OF 1934-35.

This memorandum is based on reports received from all the provinces and States and refers to the entire cotton area of India. It deals with both the early and late crops of the season. Information regarding the late crop in certain tracts, chiefly in Madras, Bombay and Hyderabad, is not, however, complete at this stage. A supplementary memorandum will therefore be issued, as usual, at a later date containing full and final figures for the above-mentioned tracts together with revised estimates, if any, for other areas.

The total area now reported is 23,407,000 acres, as against 23,854,000 acres, the revised estimate at this date last year, or a decrease of 2 per cent. The total estimated yield now stands at 4,318,000 bales of 400 lbs. each, as compared with 5,015,000 bales (revised) at the corresponding date last year, or a decrease of 14 per cent.

Unfavourable weather conditions, especially the cold spell and frost in January last, have reduced the yield of the crop.

The detailed figures for each province and State are shown below:—

Provinces and States	Acres (thousands)		Bales of 400 lbs. each (thousands)		Yield per acre lbs.	
	1934-35	1933-34	1934-35	1933-34	1934-35	1933-34
Bombay*	6,575	6,333	1,295	1,373	79	87
Central Provinces and Berar	4,240	4,270	608	718	57	67
Punjab†	2,878	2,989	887	1,105	123	148
Madras†	2,135	2,044	446	450	84	88
United Provinces† ..	715	811	194	266	109	131
Burma	438	445	92	102	84	92
Bengal†	74	76	24	24	130	126
Bihar and Orissa ..	42	42	8	8	76	76
Assam	35	37	14	15	160	162
Ajmer-Merwara	36	36	12	13	133	144
North-west Frontier Province	15	20	3	4	80	80
Delhi	4	3	1	1	116	34
Hyderabad	3,079	3,681	438	561	57	61
Central India	1,148	1,152	133	154	46	53
Baroda	800	731	39	90	19	49
Gwalior	633	614	58	59	37	38
Rajputana	490	493	58	65	47	53
Mysore	70	77	8	8	46	42
Total	23,407	23,854	4,318	5,015	74	84

* Including Sind and Indian States.

† Including Indian States. ‡ 300 bales.

A statement showing the present reported estimates of area and yield according to the recognized trade descriptions of cotton, as compared with those of the preceding year, is given below:—

TRADE DESCRIPTIONS

Descriptions of Cotton	Acres		Bales of 400		Yield per acre	
	(thousands)		lbs. each		lbs.	
	1934-35	1933-34	1934-35	1933-34	1934-35	1933-34
Oomras :						
Khandesh	1,108	1,082	247	261	89	96
Central India	1,781	1,766	191	213	43	48
Barsi and Nagar	2,070	2,341	299	376	58	64
Hyderabad-Gaoran	868	976	130	153	60	63
Berar	2,913	2,948	468	506	64	69
Central Provinces	1,327	1,322	140	212	42	64
Total	10,067	10,435	1,475	1,721	59	66
Dholleras	2,715	2,348	496	561	73	96
Bengal-Sind :						
United Provinces	715	811	194	266	109	131
Rajputana	526	529	70	78	53	59
Sind-Punjab	2,531	2,780	767	936	121	135
Others	48	48	10	10	83	83
Total	3,820	4,168	1,041	1,290	109	124
American :						
Punjab	836	809	318	364	152	180
Sind	211	*	86	*	163	—
Total	1,047	809	404	364	154	180
Broach	1,362	1,238	134	219	39	71
Coompta-Dharwars	1,088	1,365	128	175	47	51
Westerns and Northern	1,424	1,709	147	195	41	46
Cocanadas	176	167	34	27	77	65
Tinnevellies	465	505	107	130	92	103
Salems	182	195	32	37	70	76
Cambodias	487	339	188	154	154	182
Comillas, Burmas and other sorts	574	576	132	142	92	99
Grand total	23,407	23,854	4,318	5,013	74	84

* Included under "Sind-Punjab," separate figure not being available

Activities of Indian Central Cotton Committee, 1933-34.

There has been in existence a feeling of dissatisfaction about the Indian official crop forecasts of cotton and both the Indian and foreign markets have been placing more faith in private estimates. The latest report of the Indian Central Cotton Committee gives, among other things important to the cotton trade, the steps taken to eliminate some sources of error which were suspected in

the methods adopted for crop forecasting. A Cotton Forecast Improvement Staff has also been appointed since June, 1934, for effecting improvements in forecasting work.

The Report also refers to the reservation in the Sukkur Barrage area of nearly 300,000 acres in one block for growing good staple cotton and to the growing tendency all over the world for mills to take to spinning finer counts and to the consequent inadvisability of India growing such a large volume of short staple cotton.

The Cotton Committee has undertaken various branches of research work one of which is the Technological Laboratory in Bombay, where elaborate tests are carried out for ascertaining the ginning value and spinning quality of various samples including yarn strength, count, neppiness and evenness and irregularity percentages.

There are various other schemes intended to select and purify the strains of cotton as also to carry out investigations regarding the spread of wilt and other physiological diseases of the cotton plant, and the effects of hybridization on resistance to them.

There is a résumé of the progress of the Indian Cotton Transport Act and the difficulties of making it effective in certain areas, the chief cause being the absence of restrictions on the movement of cotton by road or river, particularly in the Madras Presidency, where cotton from Hyderabad, Mysore, Malabar and the Coconadas tracts continue to enter other areas growing cotton of superior quality.

The Committee appointed a Sub-committee to prepare universal standards for Indian cotton which could be used for quotations in all markets so that the trade will be able to obtain the benefits of quotations for standard grades. The general classification adopted by this Committee "is fully good, fine and superfine," but in one case they have suggested "fine, superfine and extra-superfine." As considerable progress is also being made with regard to the adoption of common units of weights throughout the country, there should result in a short time a system of quotations which would unify the trading practices all over the country.

The Committee's most successful work has, perhaps, been the propaganda for the eradication of the spotted boll-worm pest. After considerable research it was found that whenever the roots of plants were dug up entirely after the crop was harvested the chances were that the weevil germs could not survive and attack the next crop. A good deal of propaganda work was done in Bombay Presidency with very satisfactory results.

The Committee's Publicity Department has also issued booklets and brochures on several aspects of the problems connected with cotton cultivation and participated in an exhibition at Lahore, where very valuable exhibits were shown relating to cotton and its manufacture.

In addition to maintaining a large number of research scholars for conducting the investigations under the various schemes undertaken by the Committee, they send every year two students for

training abroad. The experience gathered by these young men abroad would be of great value to the Central Cotton Committee in later years.

MARKING OF INDIAN COTTON BALES.

At a recent meeting of the Indian Central Cotton Committee the President, Dewan Bahadur Sir T. Vijayaraghavacharya, made mention of the resolution adopted by the Committee of the International Federation of Master Cotton Spinners and Manufacturers' Associations and stated that the latter body had approached the Indian Central Cotton Committee with a request for a reversion to the original system of marking bales by punching the press marks on the hoops. It appeared that at some Continental cotton exchanges, in the process of sampling, portions of the hessian coverings of bales were cut out and with them sometimes also the press marks. In consequence, in cases of complaint, such bales could not be traced back to the factories at which they were pressed. He did not anticipate discussion on the subject but he remarked that the original rule requiring press marks to be punched on the hoops was amended at the express request of the cotton trade in India as, owing to the meticulous procedure prescribed, bales which, in other respects, were a fair tender, could be rejected for trifling irregularities in marking whenever merchants found it to their advantage to do so.

ALLEGED FRAUDULENT MIXING.

The complaint from the Lancashire Indian Cotton Committee regarding the fraudulent mixing of different types of Indian cotton, was one of the important subjects which received the consideration of the Committee. The Lancashire Indian Cotton Committee had written to the effect that they were handicapped to a great extent in their attempt to establish a wider market for Indian cotton in the United Kingdom on account of the mixing of different growths at the ginnery. In their view shippers have made it a trade policy to make up types containing various percentages of mixture, to make it conceivably attractive to some buyers and pass them into the foreign market at low prices. This tendency has the disastrous effect that the mixtures pull down the spinning capacity of the mixture to a disappointing extent. On the other hand, the view expressed by some of the Committee members, however, was that the demand for mixed cotton from Lancashire was itself largely responsible for this increasing malpractice in India. To meet the demand for mixed cotton and at the same time to avoid penalizing those carrying on bonafide trade in mixed cotton, it was suggested that mixing should be allowed provided the bales were marked showing the exact proportion of their mixed contents. It was finally decided that a copy of the discussion be sent to the Chairman, Lancashire Indian Cotton Committee, for the comments of his Committee.

Indian Cotton versus American.

Indian Cotton Review, of Chunilal Mehta, Bombay.

There is a misconception entertained abroad that the crop control measures adumbrated in U.S.A. have already induced, and will further induce, the other cotton-growing countries of the world like India to grow more cotton. It is further suggested that the world spinners would be tempted to switch over increasingly to other growths, and that thereby the American cotton farmers from the South would lose the world markets once and for all. The critics have been so loud in their complaint that the U.S. Administration have been virtually compelled to decide in favour of "controlled expansion" of acreages and crops.

The complaint referred to above has been so universal that we have thought it necessary to devote a special chapter in this *Review* to a discussion of the position of Indian cotton in its relation to American cotton.

At the outset, we assert that, as far as Indian cotton is concerned, the crop control measures in U.S.A. have not induced the Indian cotton agriculturists to plant and produce more cotton with a view to oust Americans from the world markets. The real situation can be gauged from the following data:—

(1) ACREAGE IN U.S. AND INDIA COMPARED (000's omitted)

		1925-26	1933-34	Change %
U.S.A.	.. .. .	45,972	40,852	—11.14
India	.. .. .	28,403	23,737	—16.42

The 1933-34 cotton acreages have been compared with the 1925-1926 acreage in U.S.A. and India mainly because the acreage devoted to cotton in both the countries during the season 1925-26 was at its height.

(2) PRICES IN INDIA

		Season 1932-33	1933-34	Change %
		Rs.	Rs.	
Broach April-May (average)	.. ..	197	203	+3
Oomra Dec-Jan. (average)	.. ..	185	179	—3
Gain on average	.. ..	—	—	Nil

PRICES IN U.S.A.

		1932	1933	Change %
The average farm price of cotton	..	6.85	9.98	+45

(3) OTHER FACTS.

(1) Most of the cotton produced in India is short-stapled, and as such it cannot displace Americans.

(2) Whatever staple cotton of $\frac{7}{8}$ in. or longer is grown in India is in itself inadequate to meet the entire Indian spinning demand

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for that variety. Moreover, the import duty imposed on outside growths in India tends to keep the internal price of staple growths higher in parity with Americans, thus making it uneconomic and unremunerative for foreign spinners to buy Indian staple varieties.

3) Although the import duty to some extent encourages the growth of staple varieties, the scope for increased cultivation of long-stapled cotton in India, due to soil conditions, is limited as compared with its own internal requirements.

(4) There is no possibility of the rupee being ever allowed to depreciate more in proportion to the dollar which means that export competition with the foreign growths on the basis of an exchange advantage is out of account.

(5) Yield per acre in U.S.A. has improved from 173 lbs. in 1925-26 to 208 lbs. in 1933-34, whereas in India it has actually declined from 88 lbs. to 84 lbs. per acre during the same period. The yield per acre is so small in India as compared with U.S.A. that from the point of view of the cost of production, Indian cotton cannot undersell Americans.

It will be seen from the above that (1) the percentage decrease in acreage during the period 1925-26 and 1933-34 has been greater in India than in U.S.A.; (2) that the gain in price during 1933-34 over the previous season has been nil in India as against a gain of 45 per cent. over the previous season made by the U.S. farmer; and (3) that inherently Indian cotton is incapable of competing with American cotton in any country of the world.

LANCASHIRE AND INDIAN COTTON.

Among the many interesting features of the first annual report of the Lancashire Indian Cotton Committee, which has recently been issued, it is interesting to study the observations of the Committee upon the Indian Cotton position and its comments upon the progress which has been made to date in the consumption of Indian cotton in Lancashire. Imports in the season 1933-34 exceed the figures for the previous season by almost 60 per cent. The report also compares the position in Japan and the United Kingdom as regards the consumption of Indian cottons. It says that although Japan has taken by far the largest quantities of Indian cotton absorbed by any overseas market in years gone by, she has done so quite naturally for purely commercial reasons. The position in Lancashire as regards Indian cotton is different. The Lancashire industry, in its period of maximum development found in America a source of raw cotton, which, from the point of view of type, quantity and regularity, met the needs of the times. Consequently the Lancashire consumption of Indian cotton has been relatively small, and has risen and fallen from year to year within small maximum limits. The British Empire nations have realized, however, that the unprecedented economic depression has created entirely new problems for their overseas trade, and that their greatest hope of emerging from the depression was to support each other while the depression lasted, and by a policy of reciprocity

make available to each the economic strength of all. As applied to Indian cotton, this policy meant that Lancashire would exert every effort to increase her own consumption and assist in developing European markets. The third chapter deals with the popularising of Indian cotton in Lancashire and shows how the Committee is striving to extend the use of such cottons.

Chapter V of the report deals with the work to be done in India. Stress is laid on the need for complementary efforts to be made in India to lay a stable foundation for an increased off-take in Lancashire. If, however, there is to be a considerable increase in the absorption of Indian cottons by the British industry, it is dependent primarily upon a high degree of regularity and reliability in the supplies available from season to season. The Committee expresses appreciation of the efforts which are being put forward by the Indian Central Cotton Committee to remedy this situation, and appeals to all concerned in India to give a prominent part in their future activities. In addition to the problem created by mixing, there is another equally important objective which the Lancashire Committee is glad to know occupies a prominent place in the programme of the Indian Cotton Authorities. This is the cultivation and increased production of new and improved types of cotton in different districts in India.

The exhibition of goods made from Indian cotton which was one of the outstanding features of the textiles section of the British Industries Fair in London in February was later displayed in Manchester. Most of the goods were specially produced at the request of the Lancashire Indian Cotton Committee to convince spinners, manufacturers, and merchants that a much wider range of goods can be made from cotton grown in India than has hitherto been considered possible by the industry in general. They include samples of the raw material and of the different kinds of yarn; more than a score varieties of cloths, including imitation linen crêpes and woollen sports fabric, and furnishing and other fabrics into which artificial silk has been woven with the Indian cotton; and a long list of made-up goods including bath robes, all the paraphernalia of a bed excepting the framework, and frocks and hosiery.

THE GROWING OF MEDIUM AND LONG STAPLE COTTONS IN INDIA.

The Indian Central Cotton Committee, in its annual report for the year ended August, 1934, just received, states :—

In the matter of cotton policy for India, the events of the year have amply proved the unwisdom of continuing the production in India of large quantities of short-staple cotton for which there is only a limited market at present, and of which the future is problematic in view of the increasing tendency of the world's mills to spin finer counts. The question of the possibility of growing medium and long-staple cottons in areas at present growing short-staple cotton is therefore one of considerable importance.

In the meantime, a definite step forward has been taken during the year to increase the supply of staple cotton in India. The Committee has very strongly recommended to the Government of Bombay that a compact block of three lakhs acres should be set apart for the cultivation of long-staple cotton in Sind in the Sukkur Barrage canal irrigated areas. Another notable advance made during the year is the termination of the long-drawn controversy of relative superiority of 1027 A.L.F. and 1-A cottons for the tract lying to the south of the river Nerbudda. A mass of data relating to the yield, ginning percentage, fibre properties, spinning test results and prices of these two cottons was carefully sifted and examined by the Committee, before taking the final decision that 1027 A.L.F. was definitely the type which was preferred by the spinner, which had an assured demand, and which was, above all, more paying to the grower on its own merits. This decision has been supplemented by the Committee by financing two schemes, one in the British territory of the tract and the other in the Baroda State, for the distribution and extension of 1027 A.L.F. cotton seed. Still one more important event in this connection is the action taken by the Committee during the year inaugurating a large scheme for the extension of Verum 262 and other staple cottons on a large scale in the short-staple tract of the Central Provinces.

EXPORTS OF INDIAN COTTON.

Classified by Varieties

(Compiled from voluntary returns furnished by exporters to the Indian Central Cotton Committee)

September 1st, 1933, to August 31st, 1934

(in thousand bales of 400 lbs. each)

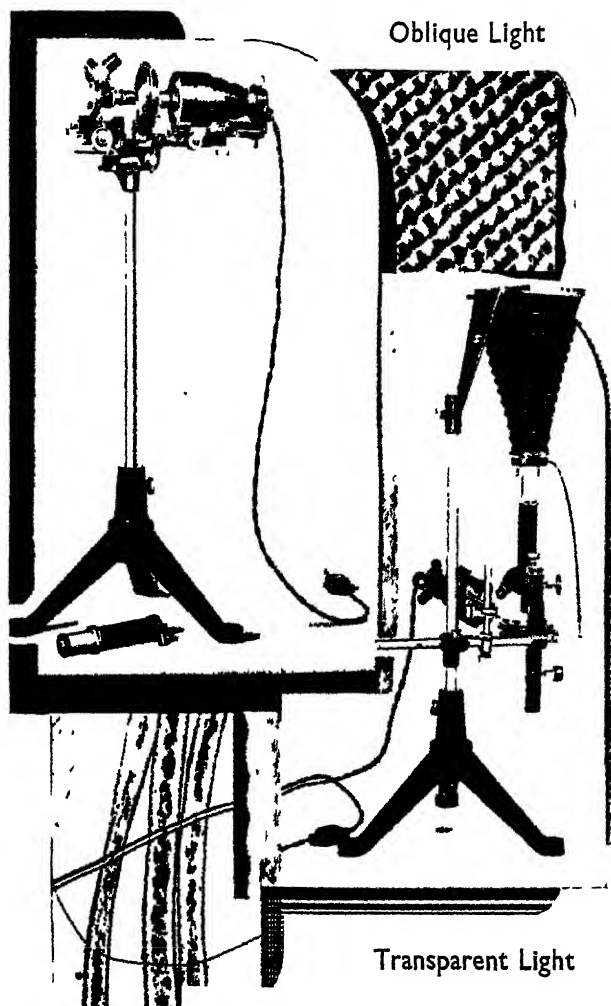
Trade Descriptions of Cotton	Exported to				
	Europe (excluding United Kingdom) and the West	United Kingdom	Japan	China and the East (excluding Japan)	Total Exports
Bengals—					
United Provinces	7	—	7	2	16
Punjab	209	22	146	83	460
Sind	139	19	21	10	189
Rajputana	5	—	7	—	12
Others (unclassified) ..	74	21	22	9	126
Total	434	62	203	104	803
Oomras—					
Central Provinces—Oomras	28	25	58	9	120
Berar—Oomras	45	7	248	13	313
Khandesh—Banilla ..	—	1	7	—	8
Khandesh—Oomras ..	66	2	167	36	271
Central India—Malvi ..	1	—	9	—	10
Central India—Others ..	20	—	104	26	150
Barsi and Nagar—Oomras	17	2	96	14	129
Unclassified	48	11	106	2	167
Total	225	48	795	100	1,168

EXPORTS OF INDIAN COTTON—*continued*

Trade Descriptions of Cotton	- Exported to -				Total Exports
	Europe (excluding United Kingdom) and the West	United Kingdom	Japan	China and the East (excluding Japan)	
Verum 262	—	—	—	—	—
Hyderabad Gaorani	3	—	—	—	3
.. ..	—	—	—	—	—
Americans—					
Punjab—289-F	4	1	—	—	5
Punjab (unspecified—4-F) ..	104	144	319	19	586
Sind—289-F	—	4	3	—	7
Sind (unspecified—4-F) ..	6	13	5	2	26
Dharwar (Gadag I, ..	—	—	—	—	—
Dharwar (Upland—unspecified) ..	—	—	13	1	14
Cambodia (Coimbatore No 2) ..	—	—	—	1	1
Cambodia (unspecified) ..	2	3	1	—	6
Total	116	165	341	23	645
Broach—					
Surat-Navsari (Surti) ..	1	1	—	—	2
Broach (unspecified) ..	65	22	60	15	162
Total	66	23	60	15	164
Dholleras—					
Mattheo	37	—	13	1	51
Cutch	1	—	7	—	8
Wagad	—	—	1	—	1
Dholleras (unspecified) ..	2	—	42	7	51
Total	40	—	63	8	111
Southerns—					
Kumtas (Jayawant) ..	—	—	—	—	—
Kumtas (unspecified) ..	1	—	—	1	2
Westerns	31	2	21	1	55
Northerns	4	—	—	—	4
Coconadas (and Warangal) ..	19	13	—	—	32
Karunganni	7	5	3	—	15
Tinnevellies	5	11	52	4	72
Salems	—	—	—	—	—
Total	67	31	76	6	180
Comillas	24	2	—	1	27
Burmas (Wagale and Wagyi) ..	—	—	7	8	15
Other sorts	1	—	1	—	2
Grand Total	976	331	1,546	265	3,118
Total Exports, as per official returns, from British Indian and Kathiawar Ports ..	988	367	1,536	348	3,280*

* Including "other countries"—41.

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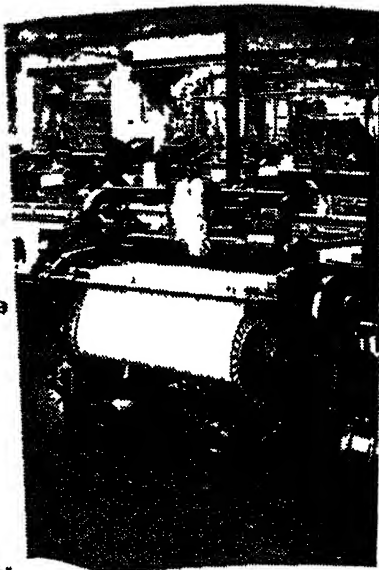
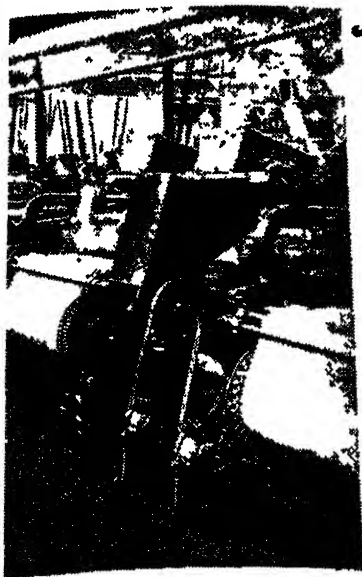


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Nep Formation in Carding.

THE *Textile Weekly* (Manchester) recently published an informative and interesting article upon "Nep and its Formation during Carding." We reproduce the article in question herewith:—

Most carders would readily agree that badly set cards may manufacture neps. How many persons have definite ideas about the method of formation of such neps? There appears to be little written on the subject in the technical journals, and most of the text-books also give the matter a wide berth.

The following research and observations on nep formation were made on a new card during the first day or two after starting it up for the first time. It should be mentioned that this card was clothed on cylinder, doffer, and flats with Roubaix "wire"; the carding points are not really wire at all, and resemble sharpened hack-saw blade teeth, but there is no reason to believe that in fundamentals the principle of carding with this type of clothing is different from that with standard clothing; the differences are in detail.

A start was made with a good quality Egyptian cotton, of fine staple, and the web coming off the doffer was uniform and almost entirely free from nep. Different samples were then put through, and after a time it was noticed that the amount of nep had very much increased with some of the samples, although others were quite satisfactory. It was found that the cotton carding satisfactorily was of rather coarse staple, i.e., of high hair weight, and that the unsatisfactory samples were of fine staple, i.e., low hair weight, although of better quality. As the experiments proceeded the flat strips increased to about three times the normal weight both with fine staples and with the coarser staple, and eventually the web with the former became full of nep, although the coarser staple was still satisfactory.

Since with the better quality cottons there was far more nep in the sliver than in the same weight of raw cotton, it was concluded that the fault lay not in the cotton, but in the machine; and that the settings were being disturbed as the newly erected card bedded into place. A trial with the gauge showed this to be the case, the doffer being some eight thousandths of an inch further

from the cylinder than the original setting, which was ten thousandths. The doffer was then set to five thousandths, when the neps almost entirely disappeared, the weight of the strips returned to normal, and the carding with all samples was regarded as practically perfect.

At the same time it was considered to be rather remarkable that the finer staple should have been so much affected, and a microscopical examination was therefore made of the neps. The perplexing observation was then made that practically all of the neps were centred on foreign matter or immature hairs, with a surrounding of normal hairs. Now, the card cannot manufacture immature hairs or seed coat; how then could it have been a machine fault?

The following explanation is offered as the solution: Good carding requires the film of cotton delivered by the taker-in to be operated on by two carding surfaces, and these surfaces must be clean and sharp, and not covered with a dead weight of cotton. One of the most important factors governing the thickness of the film of cotton carried round on the cylinder wire is the closeness of the setting between doffer and cylinder. The doffer does not strip all of the film from the cylinder, a residue always remains to be carried round again, and with a wide setting this residue may be considerable. Under such circumstances the film rises well above the points of the cylinder wire, and more of it is engaged by the flats, causing the increase in flat strips recorded above. Both of the carding surfaces are then covered with cotton, and the newly arriving cotton delivered from the taker-in cannot be properly engaged by the wire points; so, sandwiched between two comparatively smooth surfaces, the newly arriving cotton tends to roll. The rolls develop most readily on such abnormalities as pieces of seed coat or groups of immature hairs, which are therefore found as nuclei in neps composed mostly of normal hairs, although ordinarily the nuclei would be taken out in the strips. This rolling action between two cotton surfaces probably takes place at other places in the card also, notably between doffer and cylinder where the wires nearly in contact point in opposite directions, but it is difficult to say whether here or at the flats is the more important. In any case the finer cottons roll and cause neps because they are more flexible, whereas the more rigid hairs of the coarser staple may get through unharmed, unless the settings are too wide even for them.

The existence of a thick film of cotton on the cylinder when the doffer is badly set was strikingly demonstrated during the experiments referred to at the beginning of this article. The card was steadily delivering 0.25 hank sliver and feeding from an even lap, when suddenly a mass of cotton resembling a pillow appeared uniformly across the doffer, the sliver increased for a few feet to eight or ten times its normal weight, and choked the coiler. This mass of cotton, which was full of neps and resembled flat strips at their worst, is believed to have been the complete film of cotton from the cylinder ripped off by the doffer, having become so thick that it was no longer held by the cylinder points. Such an occurrence would only arise with very bad settings indeed, and may

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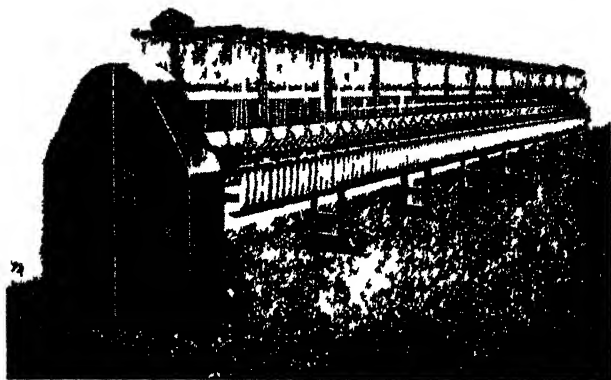
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only occur even then with the particular type of wire with which this card was clothed

From these considerations it appears that to avoid neps the film of cotton on the cylinder must be kept as thin as possible, and a way of doing this is to set the doffer closely to the cylinder. It is also clear that the fact of neps being found centred on seed coat, etc., does not necessarily absolve the carder from blame or throw responsibility on to the cotton, as at first sight such an observation certainly would do. This is a point of first importance to those engaged on the thankless task of delving into the causes of defective production, and must be taken carefully into consideration before condemning the cotton when neppy webs arise, particularly on changing over from the coarser to the finer cottons.

High Draft Spinning—Its Relation to Yarn Costs.

MR. C. BARNSHAW, F. I. I., head of the spinning section at the Blackburn Technical College, addressed members of the Preston and District Textile Society, on March 15, on "High-Drafting and its relation to Yarn Costs."

The successful use of high-drafting arrangements demanded a sound knowledge of the technique of the drafting operation, as well as a high degree of refinement in the means employed, and it was very probable that the occasional lack of success which might have been experienced was attributable to unsatisfactory lay-out of the arrangement or adjustment. There was little reason to doubt that, in many mills in Lancashire, producing medium to medium coarse counts, there was a good deal of roving preparation machinery being operated which, in view of the possibilities of high-drafting, was an unnecessary charge in yarn costs. High-draft arrangements probably offered the greatest advantage in the range of counts 20's to 50's from cotton 1½ ins. and below.

The chief ways in which such arrangements might be employed could be summarized as follows. To produce (1) a yarn of given count and quality more cheaply from the same cotton, (2) a similar count and quality of yarn from a shorter and therefore cheaper cotton, and (3) a better yarn with similar cotton and production procedure. In addition, high-draft methods, by ensuring better fibre control in drafting, permitted the use of raw material with greater variation in staple length, etc., than could be otherwise employed, as well as the spinning of a wider range of counts from a given hank roving, and, by this means, simplified cardroom organization and increased efficiency, by a reduction in the number of hank preparations necessary. Though efforts were continually being made to utilize the advantages of high-drafting on preparation frames as well as mules, the application of high-drafting arrangements had been chiefly on ring frames, and it was its application to ring spinning to which reference would be made primarily.

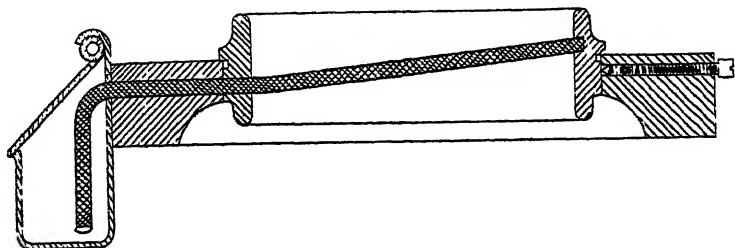
By the use of high-draft in the spinning machine, costs might be reduced by: (*a*) Omitting either the intermediate or roving frame stage; (*b*) reducing the number of slubbers, intermediates, or roving frames employed; or (*c*) other economies effected, by using the normal complement of machines with either single or double roving in the spinning machine, and producing a better yarn. In (*a*) and (*b*) the number of preparatory spindles employed would be reduced by 20 to 50 per cent., giving, at a maximum, a corresponding reduction of roving preparation costs, and in (*c*) the strength of the yarn, taken as an indication of quality, increased by $7\frac{1}{2}$ per cent. and upwards.

The cost of yarn production, when the charges involved in the change from low-draft to high-draft conditions were taken into account, could be reduced by amounts varying from 3 per cent. to upwards of 10 per cent.—according to condition and the type of arrangement employed—by changing from ordinary low-draft to high-draft. In some mills abroad the draft in the spinning machine, with some high-draft arrangements, was 100 per cent. or more, above the ordinary low-draft with standard arrangements, and in such cases, with new installations on a high-draft basis, in which costs of idle machinery were eliminated, roving preparation costs were no more than half the normal. If yarn costs were accounted to be 20 to 25 per cent. of total costs, then in the first example the saving was approximately 3 per cent. to 5 per cent. of total yarn production costs, and in the latter 10 per cent. or more. The saving per annum would therefore be these percentages of total costs according to type of arrangement and plant lay-out.

It had sometimes been said that the advantages and economics of the system in a mill with existing plant were insufficient to justify the change. Such statements appeared to be more like excuses than reasons for its non-adoption. A simple calculation would show that even the minimum saving of 3 per cent. on process costs would, in a moderate-sized mill, approximately amount to £1,000 a year, and double or more than double this in a mill specifically planned for high-drafting.

The employment of high-drafting arrangements on mules for dealing with short cotton was accompanied by greater difficulties than in the ring frame, particularly when rollers of small diameter were necessary. These additional difficulties arose chiefly on account of the length of the bottom rollers and the intermittent action of the rollers. The wider application of high-drafting on mules was, however, a matter of great importance to them.

For many years, even in Lancashire, the ring frame had been superseding the mule in a large and important range of yarn counts and qualities, so that if, due to the non-application of high-drafting, roving preparation costs for mules were to be greater, instead of less as formerly, than for ring frames, the rate of displacement of mule spindles would be further accentuated. The wider adoption of high-drafting on the ring frame had not only increased the competitive power of the machine against the mule in Lancashire, but also its competitive power in those countries which were creating such severe competition with Lancashire exports in the lower grade cloths.



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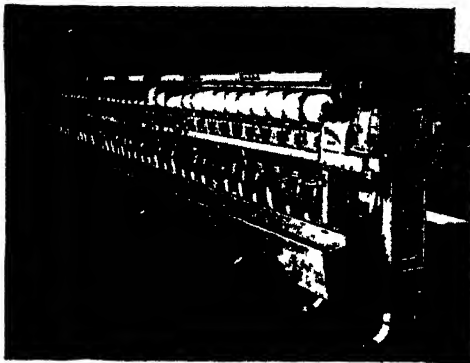
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In dealing with general considerations it seemed inevitable that comparisons should be made on the wider issue of ring spinning versus mule spinning with which the development seemed to be involved. Ring spinning was more complementary to automatic or semi-automatic weaving and to a vertically combined industry than mule spinning which was, in itself, a factor of enormous importance to Lancashire. Since these conditions existed to a greater extent in the most successfully competing countries than in Lancashire, technical developments in ring spinning, which were not equally applicable to the mule, gave them a further advantage which could be more fully realized than here, and thus became a question of major importance.

He was not suggesting that the mule was an obsolete machine, but merely indicated that the effect of the application of high-drafting seemed to place those competing countries, which had almost entirely adopted ring spinning, in an even stronger position than formerly in the production of the coarser counts of yarn and the lower grade fabrics. He believed that the supremacy of the mule as a spinning machine had been, in the past, the most decisive single factor in Lancashire's trade and, though its position in the production of a wide range of yarns was being successfully challenged, it would continue to be a most important factor in our future trade.

(Textile Weekly.)

NEW NORTHROP DEMONSTRATION ROOM.

Readers will be interested to learn of the new demonstration facilities which have recently been provided by the British Northrop Loom Co. Ltd., at their headquarters at Blackburn, Lancashire.

What was formerly the old foundry has been transformed into a modern demonstration room, and is now concerned with the display of the finished product instead of with one of the earliest stages in its production. The room is 100 ft. long and 60 ft. wide and houses about 30 automatic looms of various types and sizes, each with individual electric drive.

Looms ranging from the light narrow cotton type to those weaving heavy sheeting are on demonstration weaving cotton, rayon, wool, worsted, linen and jute, the majority being of the bobbin changing variety. The multi-box type is represented, with weft-changing motions for two or four colours of weft, the change mechanism being electrically controlled.

A NEW COTTON YARN.

Interest in cotton spinning circles has been aroused by the announcement made by John Dugdale & Sons Ltd., of Blackburn, that they have discovered a new process for making cotton yarns with a silk-like lustre, a really soft and pleasing "feel" and which

can be woven as weft on ordinary looms without difficulty. In addition the woven fabric can be treated without detriment to any of the usual finishing processes and can be retailed at a price comparable with that of a similar fabric woven from ordinary cotton yarns.

The new yarn, which is supplied on pirns to minimize the amount of weavers' waste, gives a fulness to the fabric due to its bulkiness or greater diameter as compared with similar counts of ordinary weft yarns. It occupies a greater space in the cloth than normal yarns of the same counts, and thus a much better "cover" is obtained. It is claimed that with 20 per cent. fewer picks per inch the new cloth compares favourably with cloth woven from ordinary yarns of similar counts. The new yarn is spun in from 10's to 60's counts, single, and from 2/20's to 2/60's. It contains no strengthening or other substances and no special process is required when the cloth has to be mercerized.

In its single form as weft, the new yarn is shown to advantage in weft-faced fabrics, such as sateens and linings and fabrics featuring small dobby designs. It is suitable for linbrics, dress goods and furnishing fabrics, etc. The twofold yarns can be used as either warp or weft in a large variety of fabrics and are being supplied to the hosiery trade for the knitting of sports shirts, stockings, underwear and outerwear. The softness of the yarn is a decided asset in the production of underwear.

PLATT'S PATENT DRAW FRAME UNDERCLEARER.

The current issue of Platt's Bulletin contains details of a new underclearer for cotton drawing frames, and is designed to eliminate the collecting of fly and its occasional passage on to the running sliver.

The component parts are a main support bracket, adjustable side brackets, a comb, a tray to receive the waste fibres, and spiral springs attached to the frame and side brackets to maintain contact with the roller. The clearer cloth is moved intermittently by a ratchet wheel mounted on the back clearer roller and operated by a rod from the oscillating stop-rod bracket. A second rod connects the ratchet and pawl link to the comb which clears the cloth of all waste fibres, depositing them in the tray underneath. The tray swivels on a rod which connects with both frame sides but is weighted to maintain a horizontal position. By tilting the tray the fibres may be removed periodically.

By these arrangements there is no risk at all of the rollers picking up dirt. A machine fitted with these underclearers could be run at a higher speed. There is also a saving due to greater production in another way. To clean ordinary underflats requires stoppages of 1½ minutes for ribbon lap drawing rollers, 30 seconds for comber draw box, and 1½ minutes for a 3-head 6-delivery draw frame. Taking an average "picking" of six times daily, this time quite represents about 70 lbs. production per week on a draw frame. The tenter greatly appreciates the freedom from flat

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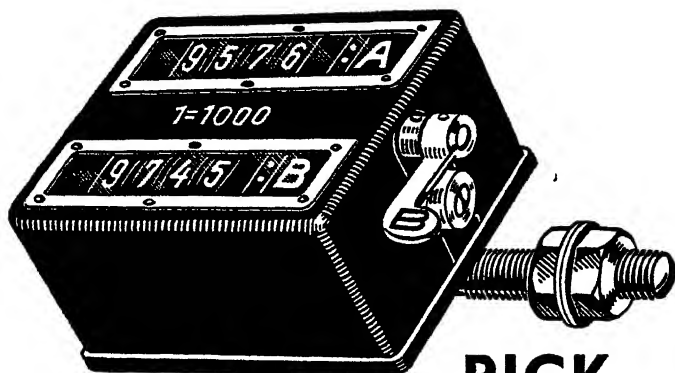
Joh. Jacob Rieter & Co., Limited.

Winterthur

Switzerland.

PICK COUNTERS

For one, two and three shifts
attachable to any type of loom

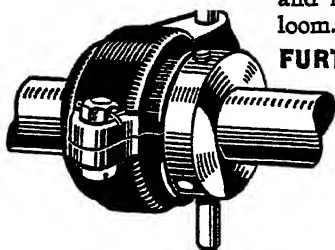


PICK COUNTERS

TO EVERY
LOOM
A PICK
COUNTER

serve for
an AUTOMATIC CONTROL of
every loom's efficiency and produc-
tion; for calculation purposes and
for paying the wages by PICKS.
They are supplied complete ready
for attachment with all driving and
fastening parts.

They are perfectly simple to attach
and made suitable for any type of
loom.



**FURTHERMORE OUR CLIENTS
FIND THAT THROUGH
FITTING THEIR LOOMS
WITH THESE COUNTERS
THE OUTPUT IS CON-
SIDERABLY INCREASED.**

John T. Murray

4, Water Street
Tel. BLACKfriars 0510 **Manchester, 3**

picking. Again, a great deal of time will be saved at the later processes in the "picking out" of dirty ends, etc. It is not necessary to have anyone to go round collecting flat dirt. The clearers require emptying, say once a day according to the material, and even if neglected they will empty themselves by the pivoting action of the collecting tray.

The arrangement is easily applied to machines, and wear of any part—even the flannel covering—is negligible. The arrangement has been well tested under mill conditions. An advantage is that a clear view is obtained along the drawing rollers and under the running sliver. The attachment is particularly recommended for fine counts and high quality yarns.

TESTING FOR MOISTURE CONTENT IN COTTON OR YARN.

A new device has now been developed by means of which the moisture content of a bale, hank, cop, cheese, cone or any other yarn package, and also cloth, can be tested in a few seconds. This is a portable instrument called the Electro-Psycrometer, which can be operated by any member of a mill staff after one demonstration. The device is electrically controlled from the mains, one of its greatest advantages being that it is suitable for both alternating and direct current of any voltage between 120 to 240.

The method of application is simple in the extreme. For instance, if it is required to ascertain the moisture content of any type of yarn package, the cop, cheese, or whatever form it may take, is held in one hand whilst the needles of the hand-grip are thrust into the yarn. The needle of a large quadrant on the instrument will then register a certain number which, when compared with the correct chart (complete sets of charts for all textile fibres are supplied) gives the percentage of moisture content.

For the testing of bales or big packages, a slightly longer set of needles is used. One of the most useful features of the device is the fact that the reading is not confined to the actual point of contact of the needles and the material, but is through a field in vicinity of the needles.

By placing the needles into the material at several different points the average moisture content of the package can be obtained. For example, a cheese of cotton yarn does not contain exactly the same amount of moisture on all sides, but may vary by an appreciable amount, say, at the top and bottom, and the use of the Electro-Psycrometer in this way gives an accurate record of the percentage of moisture.

The instrument is guaranteed by the makers for all time to within 0.2 per cent. accuracy. Actual tests compared with conditioning tests show, however, that results with the new device are rarely more than 0.05 per cent. different.

The Electro-Psycrometer can also be used for testing cloth, in which case the method of procedure is exactly the same as with yarn, except that grippers are used instead of needles to hold the cloth. The sole British agents for the instrument are G. W. Thornton & Son, 5, Blackfriars Street, Manchester.



INTERNATIONAL COTTON STATISTICS



The present tabulation is the **FINAL** result of the Census of Cotton Consumption in the Cotton Spinning Mills of the World for the half year ended 31st January, 1935, and of Cotton Mill Stocks on that date. It should be borne in mind that the figures published herewith relate to raw cotton only, and do not contain linters or waste cotton of any kind whatsoever. The spindle figures refer to raw cotton spinning spindles only and contain no waste or doubling spindles.

Owing to the fact that the collection of commercial and trade statistics in Germany is now in charge of the "Überwachungsstellen," it has been impossible to obtain any figures of cotton mill consumption or cotton mill stocks for this country up to the time of going to press.

The total World's Cotton Mill Consumption for the **HALF YEAR** ended 31st January, 1935, compared with that of the same period of the previous year, is as follows (German figures for the previous half year are not included, in order to make the tabulations comparable):

	31st January 1935	31st January 1934	Increase or Decrease over same period in 1934
	bales	bales	bales
American Cotton ..	5,444,000	6,479,000	— 1,035,000
East Indian Cotton ..	2,889,000	2,282,000	+ 607,000
Egyptian Cotton ..	521,000	481,000	+ 40,000
Sundries	3,363,000	2,545,000	+ 818,000
All kinds of Cotton ..	12,217,000	11,787,000	+ 430,000

The total World's Cotton Mill Stocks on 1st February, 1935 and 1934, according to Continental distribution, were as follows, German stocks not being included on either date:

American Cotton:

Europe ..	482,000 bales	against 662,000 bales on 1st Feb., 1934.
Asia	353,000 "	" 361,000 " " " "
America ..	1,236,000 "	" 1,656,000 " " " "

The total World's Mill Stocks of American Cotton on 1st Feb., 1935, were 2,084,000 bales, as against 2,698,000 bales in the year 1934.

East Indian Cotton:

Europe ..	243,000 bales	against 207,000 bales on 1st Feb., 1934.
Asia	961,000 "	" 939,000 " " " "

Altogether the World's Mill Stocks of East Indian Cotton were 1,214,000 bales against 1,164,000 twelve months ago.

Egyptian Cotton:

Europe ..	194,000 bales	against 165,000 bales on 1st Feb., 1934.
Asia	57,000 "	" 28,000 " " " "
America ..	25,000 "	" 23,000 " " " "

The total World's Mill Stocks of Egyptian Cotton were 281,000 bales against 221,000 bales twelve months ago.

Sundry Cottons :

Europe ..	490,000	bales against 305,000 bales on Feb. 1st, 1934.
Asia ...	448,000	" " 410,000 " " " "
America ..	180,000	" " 139,000 " " " "

The Total World's Mill Stocks of all kinds of cotton on Feb. 1st, 1935, were 4,771,000 bales against 5,003,000 bales on Feb. 1st, 1934.

The World's Total Spindles on Jan. 31st, were 155,061,000 as against 156,878,000 last July.

N. S. PEARSE,

General Secretary.

SHORT-TIME TABLE

The spindle-hours stopped by the mills reporting, when worked out over the whole industry of each country, indicate the following stoppages in weeks of 48 hours, for the industries in the countries tabulated below :—

	Half-year ending	
	Jan 31st, 1935	July 31st, 1934.
Great Britain	7.16*	8.14*
France	9.57†	6.99†
Italy	13.27	7.76
Czecho-Slovakia	11.90	9.20
Belgium	6.65	7.36
Poland	0.96	0.45
Switzerland	3.83	3.48
Holland	4.03	4.85
Austria	4.58	6.55
Sweden	0.99	0.51
Portugal	0.002	—
Finland	None	None
Hungary	0.97	2.93
Denmark	0.36	0.33
Norway	1.50	3.41
Japan	17.12†	9.61†
China	6.85**	10.73**
Canada	6.17	1.94
Mexico	1.01	1.40
Brazil	1.27	2.01
Yugo Slavia	0.11	0.55

U.S.A. In Jan. 1935, 25,146,000 spindles were active out of a total of 30,826,000, as compared with 24,418,000 active last July.

* The stoppage of the American Section amounted to 8.086 (9.96) weeks, and that of the Egyptian Section to 6.047 (5.81) weeks of 48 hours. There were 48 (63) firms with 2,734,750 (3,776,343) spindles in the American Section completely stopped during the period under review. In the Egyptian Section 6 (7) firms with 436,038 (620,544) spindles were completely stopped during the six months. Firms with 123,648 (114,972) spindles have closed down indefinitely during the period under review.

† This figure represents working weeks of 48 hours. The general working week in Japan is 120 hours. Calculated in Japanese working weeks the stoppage is equal to 6.85 (3.85) weeks for the last six months under review.

** The working week in China is 132 hours. Calculated in Chinese working weeks the stoppage is equal to 2.49 (3.90) weeks for the period under review.

‡ France: 2,002,330 (1,041,890) spindles have been completely stopped during the past six months.

(Figures in brackets and in *italic* refer to previous six months.)

Estimated TOTAL WORLD'S COTTON MILL CON.
with previous figures for comparison, on basis of Spinners'

COUNTRIES	IN THOUSANDS OF ACTUAL BALES (regardless of weight)							
	AMERICAN				EAST INDIAN			
	Half-year ending				Half-year ending			
	Jan. 31 1935	July 31 1934	Jan. 31 1934	Jan. 31 1933	Jan. 31 1935	July 31 1934	Jan. 31 1934	Jan. 31 1933
EUROPE :—								
(1) Great Britain ..	533	690	771	665	170	125	109	56
(2) France ..	250	346	403	368	91	92	102	74
(3) †Germany ..	—	513	543	433	—	103	87	51
(4) †Russia ..	2	25	35	—	—	10	23	23
(5) Italy ..	223	305	331	319	93	71	77	46
(6) Czecho-Slovakia ..	88	114	103	132	21	17	14	11
(7) Belgium ..	58	68	80	82	51	39	45	46
(8) Spain ..	127	118	170	154	31	34	26	21
(9) Poland ..	109	106	121	116	2	11	12	2
(10) Switzerland ..	19	22	26	25	6	5	5	4
(11) Holland ..	42	62	63	64	23	18	17	13
(12) Austria ..	38	42	45	30	14	7	8	3
(13) Sweden ..	60	59	57	52	1	1	—	—
(14) Portugal ..	25	21	28	23	1	—	—	1
(15) Finland ..	26	23	21	16	—	—	—	—
(16) Hungary ..	27	28	34	30	7	5	4	2
(17) *Yugo Slavia ..	18	20	—	—	10	11	—	—
(18) Denmark ..	17	16	17	12	—	—	—	—
(19) Norway ..	5	5	6	6	—	—	—	—
Europe Total ..	1,676†	2,583	2,854	2,527	521†	549	529	353
ASIA :								
(1) India ..	22	14	26	89	1,323	1,123	1,106	1,154
(2) Japan ..	828	900	881	899	915	619	605	438
(3) China ..	152	176	241	457	115	88	97	93
Asia Total ..	1,002	1,090	1,148	1,445	2,353	1,830	1,808	1,685
AMERICA :								
(1) U.S.A. ..	2,613	2,707	2,847	2,749	8	9	5	11
(2) Canada ..	120	109	110	80	—	—	—	—
(3) Mexico ..	—	3	16	—	—	—	—	—
(4) Brazil ..	—	—	—	—	—	—	—	—
America Total ..	2,733	2,819	2,973	2,829	8	9	5	11
Other Countries ..	33	21	47	46	7	15	27	10
HALF-YEAR'S TOTAL ..	5,444†	6,513	7,022	6,847	2,889†	2,403	2,369	2,059

† No returns from Russia. Figures for this country are estimated from trade sources.

* Formerly included in Other Countries.

‡ No returns from Germany, 1935 (see page 378).

SUMPTION for the Half-year ending 31st Jan., 1935,
returns made to the International Cotton Federation.

IN THOUSANDS OF ACTUAL BALES (regardless of weight)											
EGYPTIAN				SUNDRIES				TOTAL			
Half-year ending				Half-year ending				Half-year ending			
Jan. 31 1935	July 31 1934	Jan. 31 1934	Jan. 31 1933	Jan. 31 1935	July 31 1934	Jan. 31 1934	Jan. 31 1933	Jan. 31 1935	July 31 1934	Jan. 31 1934	Jan. 31 1933
181	177	189	143	367	206	203	216	1,251	1,198	1,272	1,080
53	57	62	53	65	38	34	32	468	533	601	527
—	83	63	44	—	78	54	51	—	777	747	579
—	—	—	30	919	1,032	760	760	921	1,067	818	813
44	40	37	31	31	5	8	9	391	421	453	405
17	16	14	10	15	9	7	8	141	156	138	161
3	3	2	2	45	24	18	32	157	134	145	162
28	23	26	21	15	6	3	8	201	181	225	204
19	15	10	7	13	2	2	4	143	134	145	129
22	19	16	15	3	2	1	1	50	48	48	45
1	—	—	—	28	15	4	3	94	95	84	80
9	6	5	3	10	4	4	3	71	59	62	39
2	2	2	1	2	—	—	—	65	62	59	53
2	2	2	1	15	16	5	12	43	39	35	37
1	1	1	—	2	—	—	—	29	24	22	16
5	5	2	5	4	1	2	—	43	39	42	37
1	1	—	—	4	1	—	—	33	33	—	—
—	—	—	—	1	1	1	1	18	17	18	13
—	—	—	—	1	—	—	—	6	5	6	6
388†	450	431	366	1,540†	1,440	1,106	1,140	4,125†	5,022	4,920	4,386
23	23	19	21	122	96	107	108	1,490	1,256	1,258	1,372
43	30	28	25	89	121	68	26	1,875	1,670	1,582	1,388
15	9	10	9	1,024	920	842	790	1,306	1,193	1,190	1,349
81	62	57	55	1,235	1,137	1,017	924	4,671	4,119	4,030	4,109
31	32	37	27	9	15	18	13	2,661	2,763	2,907	2,800
6	5	5	3	—	—	—	—	126	114	115	83
1	1	1	—	96	94	80	78	97	98	97	78
—	—	—	—	312	280	252	229	312	280	252	229
38	38	43	30	417	389	350	320	3,196	3,255	3,371	3,190
14	14	13	11	171	132	126	130	225	182	213	197
521†	564	544	462	3,363†	3,098	2,599	2,514	12,217†	12,578	12,534	11,882

Estimated **TOTAL WORLD'S COTTON MILL STOCKS** comparison on basis of Spinners' returns

COUNTRIES		IN THOUSANDS OF ACTUAL BALES (regardless of weight)							
		AMERICAN				EAST INDIAN			
		Half-year ending				Half-year ending			
		Jan. 31 1935	July 31 1934	Jan. 31 1934	Jan. 31 1933	Jan. 31 1935	July 31 1934	Jan. 31 1934	Jan. 31 1933
EUROPE :									
(1)	Great Britain ..	48	56	64	68	36	56	23	15
(2)	France ..	92	104	147	141	64	105	69	42
(3)	†Germany ..	—	120	175	120	—	49	46	23
(4)	†Russia ..	2	3	10	—	—	4	5	5
(5)	Italy ..	149	160	192	174	60	55	37	23
(6)	Czecho-Slovakia ..	33	40	44	40	11	8	7	3
(7)	Belgium ..	24	32	38	37	37	39	35	21
(8)	Spain ..	17	17	19	26	5	5	5	4
(9)	Poland ..	12	12	14	19	—	4	4	1
(10)	Switzerland ..	14	20	23	22	7	10	7	3
(11)	Holland ..	24	42	46	44	11	16	12	8
(12)	Austria ..	11	15	16	13	4	3	2	1
(13)	Sweden ..	26	29	28	23	—	—	—	—
(14)	Portugal ..	5	5	5	5	1	—	—	—
(15)	Finland ..	5	4	3	4	—	—	—	—
(16)	Hungary ..	3	4	4	7	2	3	1	—
(17)	*Yugo Slavia ..	8	8	—	—	5	6	—	—
(18)	Denmark ..	7	5	6	5	—	—	—	—
(19)	Norway ..	2	3	3	3	—	—	—	—
Europe Total		482†	679	837	751	243†	363	253	149
ASIA :									
(1)	India ..	18	13	19	35	761	935	801	391
(2)	Japan ..	285	306	281	270	179	296	113	82
(3)	China ..	50	54	61	111	21	51	25	19
Asia Total		353	373	361	416	961	1,282	939	672
AMERICA :									
(1)	U.S.A. ..	1,149	1,175	1,553	1,451	8	9	7	7
(2)	Canada ..	87	69	98	65	—	—	—	—
(3)	Mexico ..	—	—	5	—	—	—	—	—
(4)	Brazil ..	—	—	—	—	—	—	—	—
America Total		1,236	1,244	1,656	1,516	8	9	7	7
Other Countries		13	11	19	16	2	1	11	4
HALF-YEAR'S TOTAL		2,084†	2,307	2,873	2,699	1,214†	1,655	1,210	832

† No returns from Russia. Figures for this country are estimated from trade sources.

* Formerly included in Other Countries.

‡ No returns from Germany, 1935 (see note on page 378).

on 31st January, 1935, with previous figures for made to the International Cotton Federation.

IN THOUSANDS OF ACTUAL BALES
(regardless of weight)

EGYPTIAN				SUNDRIES				TOTAL			
Half-year ending				Half-year ending				Half-year ending			
Jan. 31 1935	July 31 1934	Jan. 31 1934	Jan. 31 1933	Jan. 31 1935	July 31 1934	Jan. 31 1934	Jan. 31 1933	Jan. 31 1935	July 31 1934	Jan. 31 1934	Jan. 31 1933
61	64	64	33	73	62	65	56	218	238	216	172
31	38	35	31	51	45	26	21	238	292	277	235
—	24	23	16	—	24	21	14	—	217	265	173
—	—	—	10	250	362	180	180	252	369	195	195
51	37	26	22	29	8	4	4	289	280	259	223
7	7	7	5	8	3	3	4	50	58	61	52
2	2	2	2	26	19	12	7	89	92	87	67
12	7	10	8	3	2	1	1	37	31	35	39
4	2	1	3	4	3	1	1	20	21	20	24
17	15	14	13	5	2	1	1	43	47	45	39
1	—	—	—	24	7	4	1	60	65	62	53
3	4	3	2	3	1	2	1	21	23	23	17
2	2	1	1	1	1	—	—	29	32	29	24
1	1	1	1	5	3	5	1	12	9	11	7
—	—	—	—	2	—	—	—	7	4	3	4
2	1	1	3	2	1	—	—	9	9	6	10
—	—	—	—	3	—	—	—	16	14	—	—
—	—	—	—	1	—	1	—	8	5	7	5
—	—	—	—	—	—	—	—	2	3	3	3
194†	204	188	150	490†	543	326	292	1,409†	1,789	1,604	1,342
16	13	10	16	40	60	37	35	835	1,021	867	677
35	20	15	17	25	31	37	14	524	653	446	363
6	4	3	2	383	272	336	274	460	381	425	406
57	37	28	35	448	363	410	323	1,819	2,055	1,738	1,446
18	23	19	18	12	14	15	12	1,187	1,221	1,594	1,488
6	2	3	2	—	—	—	—	93	71	101	87
1	2	1	—	37	47	65	55	38	49	71	55
—	—	—	—	111	64	59	58	111	64	59	58
25	27	23	20	160	125	139	125	1,429	1,405	1,825	1,668
5	4	5	3	94	72	66	63	114	88	101	86
281†	272	244	208	1,192†	1,103	941	803	4,771†	5,337	5,268	4,542

ESTIMATED TOTAL WORLD'S COTTON years 31st January, 1935, and 31st July the International

COUNTRIES			TOTAL ESTIMATED NUMBER OF SPINNING SPINDLES		MULE SPINDLES	
			Half-year ended		Half-year ended	
			Jan. 31, 1935	July 31, 1934	Jan. 31, 1935	July 31, 1934
EUROPE :						
(1)	Great Britain ..	..	43,756	45,893	32,480	34,108
(2)	France .. ..	..	10,157	10,170	2,550	2,557
(3)	Germany .. ..	..	10,109*	10,109	3,263**	3,263
(4)	Russia† .. ..	..	9,800	9,800	2,187	2,187
(5)	Italy .. ..	..	5,477	5,493	570	570
(6)	Czecho-Slovakia ..	..	3,625	3,627	1,522	1,544
(7)	Belgium .. ..	..	2,091	2,106	346	344
(8)	Spain .. ..	..	2,070	2,070	431	431
(9)	Poland .. ..	..	1,684	1,696	447	475
(10)	Switzerland .. ..	..	1,287	1,295	449	455
(11)	Holland .. ..	..	1,219	1,236	273	273
(12)	Austria .. ..	..	765	774	232	282
(13)	Sweden .. ..	..	587	602	53	48
(14)	Portugal .. ..	..	452	452	137	137
(15)	Finland .. ..	..	277	271	46	46
(16)	Hungary .. ..	..	289	283	44	44
(17)	†Yugo Slavia .. ..	..	156	158	43	51
(18)	Denmark .. ..	..	100	100	—	—
(19)	Norway .. ..	..	47	48	8	10
Total			93,948	96,183	45,081	46,825
ASIA :						
(1)	India .. ..	..	9,613	9,572	669	757
(2)	Japan .. ..	..	9,530	9,115	35	35
(3)	China .. ..	..	4,681	4,680	—	—
Total			23,824	23,367	704	792
AMERICA :						
(1)	U.S.A.* .. ..	..	30,826	30,938	433	550
(2)	Canada .. ..	..	1,178	1,187	98	99
(3)	Mexico .. ..	..	862	862	7	7
(4)	Brazil .. ..	..	2,706	2,702	5	5
Total			35,572	35,689	543	661
Other Countries ..			1,717	1,639	289	289
Grand Total ..			155,061	156,878	46,617	48,567

* U.S.A.—The division between mule and ring and the number of spindles on Egyptian is only approximate.

† No return received from Russia. Figures for this country are estimated from trade sources.

‡ Formerly included in Other Countries.

SPINNING SPINDLES (000's omitted) for the half-1934, on basis of returns made to Cotton Federation.

RING SPINDLES		SPINDLES SPINNING EGYPTIAN COTTON		SPINDLES IN COURSE OF REECTION		
Half-year ended		Half-year ended		Half-year ended		
Jan. 31, 1935	July 31, 1934	Jan. 31, 1935	July 31, 1934	Jan. 31, 1935	July 31, 1934	
11,276	11,785	17,369	16,554	95	26	(1)
7,607	7,613	2,090	1,802	6	24	(2)
6,846**	6,846	1,455**	1,455	51**	51	(3)
7,613	7,613	?	?	?	?	(4)
4,907	4,923	650	650	—	—	(5)
2,103	2,083	581	616	3	1	(6)
1,745	1,762	59	38	1	1	(7)
1,639	1,639	207	207	—	—	(8)
1,237	1,221	325	315	6	8	(9)
838	840	650	645	3	4	(10)
946	963	20	2	—	—	(11)
533	492	165	107	1	—	(12)
534	554	24	23	—	3	(13)
315	315	36	36	9	—	(14)
231	225	20	18	32	1	(15)
245	239	44	47	3	—	(16)
113	107	9	6	—	5	(17)
100	100	—	—	—	—	(18)
39	38	—	—	—	—	(19)
48,867	49,358	23,704	22,321	210	124	
8,944	8,815	526	324	86	51	(1)
9,495	9,080	744	773	120	150	(2)
4,681	4,680	—	—	—	—	(3)
23,120	22,575	1,270	1,097	206	201	
30,393	30,388	1,000	1,000	?	?	(1)
1,080	1,088	88	78	—	—	(2)
855	855	8	8	—	—	(3)
2,701	2,697	—	—	5	—	(4)
35,029	35,028	1,096	1,086	5	—	
1,428	1,350	270	217	22	10	
108,444	108,311	26,340	24,721	443	335	

** Figures for six months ending July 31st, 1934.

TOTAL WORLD.

Date	Total Estimated Number of Spinning Spindles existing in world	ESTIMATED MILL STOCKS—In thousands of ACTUAL BALES (000's omitted) "INVISIBLE" SUPPLY					Per 1,000 Spindles Total, all kinds of Cotton Bales
		AMERICAN	EAST INDIAN	EGYPTIAN	SUNDRIES	TOTAL	
Feb. 1, 1934	157,718,000	2,873	1,210	244	941	5,268	33.39
" 1933	158,984,000	2,699	832	208	803	4,542	28.57
" 1932	162,070,000	2,775	984	212	637	4,608	28.43
" 1931	163,571,000	2,427	1,212	202	745	4,586	28.04
" 1930	165,143,000	2,742	1,173	224	792	4,931	29.86
" 1929	165,104,000	2,958	1,216	182	938	5,294	32.06
" 1928	164,979,000	2,867	969	183	863	4,882	29.59
" 1927	164,616,000	2,982	829	173	771	4,755	28.88
" 1926	162,972,000	2,862	915	200	671	4,648	28.52
" 1925	159,904,000	2,369	738	197	655	3,959	24.76
Mar. 1, 1913	142,186,000	3,448	716	279	973	5,416	38.09
Aug. 1, 1934	156,878,000	2,307	1,655	272	1,103	5,337	34.02
" 1933	157,755,000	2,558	1,527	235	730	5,050	32.01
" 1932	161,002,000	2,543	1,031	228	660	4,462	27.71
" 1931	162,278,000	1,871	1,565	217	660	4,313	26.58
" 1930	164,108,000	1,985	1,667	237	609	4,498	27.41
" 1929	164,211,000	2,129	1,761	228	745	4,863	29.61
" 1928	165,103,000	2,112	1,728	170	777	4,787	28.99
" 1927	164,597,000	3,056	1,515	210	626	5,407	32.85
" 1926	163,723,000	1,969	1,589	201	739	4,498	27.47
Sept. 1, 1913	143,449,000	1,655	1,405	273	744	4,077	28.42

ESTIMATED COTTON MILL CONSUMPTION—In thousands
of ACTUAL BALES (000's omitted)

Half-year ending								
July 31, 1934	156,878 000	6513	2403	564	3098	12578	80.18	
Jan. 31, 1934	157,718,000	7022	2369	544	2599	12534	79.47	169.66
		13555	4772	1108	5697	26112		
July 31, 1933	157,755,000	7823	2161	472	2514	12470	79.04	
Jan. 31, 1933	158,984,000	6847	2059	462	2514	11882	74.74	163.78
		14170	4220	934	5028	24362		
July 31, 1932	161,002,000	6202	1976	493	2121	10792	67.03	
Jan. 31, 1932	162,070,000	6117	2812	487	2114	11530	71.14	133.17
		12219	4788	980	4235	32322		
July 31, 1931	162,278,000	5630	2850	459	2385	11324	69.75	
Jan. 31, 1931	163,571,000	5278	3013	394	2479	11164	68.25	133.00
		10908	5863	853	4864	22498		
July 31, 1930	164,108,000	5940	3102	435	2530	12007	73.16	
Jan. 31, 1930	165,143,000	7083	2985	502	2632	13202	79.94	153.10
		13023	6087	937	5162	26209		
July 31, 1929	164,211,000	7463	2604	492	2455	13014	79.25	
Jan. 31, 1929	165,104,000	7613	2574	497	2184	12868	77.94	157.19
		16076	5178	989	4639	25532		
July 31, 1928	165,103,000	7181	2220	467	2685	12553	76.03	
Jan. 31, 1928	164,979,000	8226	2303	489	1969	12987	78.72	164.75
		15407	4623	956	4654	25540		
July 31, 1927	164,597,000	6357	2378	506	2171	13412	81.48	
Jan. 31, 1927	164,616,000	7423	2818	487	2001	12729	77.32	158.80
		13780	5186	993	4172	26141		
Year ending Aug. 31, 1913	143,449,000	14630	3977	946	3447	23000	160.34	

SPECIFICATION OF PART OF THE COTTON RETURNED AS "SUNDRIES" (IN ACTUAL BALES)
Six Months ending January 31st, 1935, estimated from Actual Returns.

CONSUMPTION

Country	Portu- gal	Brazil- ian	Argen- tine	West Indian	Mexi- can	Turk- ish	Rus- sian	Meso- american	Sudan	East African	West African	South African	Aus- tralian	Chinese	Others	Total
Great Britain	57,963	172,108	36,330	9,263	732	1,220	631	435	45,000	17,575	13,468	812	843	—	10,218*	366,597
Germany†	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
France	1,815	30,463	4,953	63	—	4,245	—	—	4,616	—	11,748	—	—	—	7,146	65,238
Italy	1,363	10,230	1,715	—	—	5,363	1,104	—	1,186	2,503	408	—	—	—	1,699	30,791
Belgium	1,323	8,365	—	290	—	—	—	226	340	31,372	—	—	—	—	2,589	46,005
Switzerland	1,287	450	20	—	—	—	—	—	187	757	1,586	—	—	—	920	6,187
Poland	1,085	799	474	25	—	—	5,789	—	1,903	—	871	—	—	—	2,170	13,119
Holland	938	9,140	787	—	—	74	14	—	9	30	16,174	—	—	—	639	13,119
Czechoslovakia	1,262	1,190	—	—	—	831	2,587	47	1,724	—	8,068	—	—	—	2,486	24,866
Austria	162	453	—	—	—	—	446	—	—	94	8,807	—	—	—	101	14,866
Spain	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
India	—	312,000	—	—	—	—	—	—	—	—	—	—	—	1,022,316	1,001	1,024,101
China	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	812,000
Japan	—	—	—	—	—	—	—	—	—	34,537	—	—	—	1,000	2,332 Saigon & Annam 7,388 Korean 44,363 Others	80,070
	60,163	545,613	43,279	9,641	102,867	11,762	10,370	708	55,955	55,505	88,818	812	843	1,022,376	84,385	2,100,364

STOCKS

Great Britain	8,596	15,436	3,371	4,654	67	92	182	88	22,038	13,526	1,777	182	70	—	2,694†	72,688
Germany†	2,592	21,828	3,741	663	—	730	—	—	5,295	—	7,321	—	—	—	—	50,918
France	216	8,480	1,751	—	4,197	4,260	748	—	2,182	3,835	826	—	—	—	8,888	23,337
Italy	311	9,714	—	—	—	—	—	—	740	—	20,708	—	—	—	2,503	25,887
Belgium	1,297	450	20	—	—	—	—	—	187	757	1,586	—	—	—	1,092	26,505
Switzerland	301	—	306	—	—	—	—	—	2,193	—	1,033	—	—	—	—	5,187
Poland	1,072	9,792	99	—	—	20	243	—	9	290	1,790	—	—	—	—	8,888
Holland	1,072	1,003	—	—	—	699	164	—	888	125	3,764	—	—	—	—	23,877
Czechoslovakia	602	744	—	—	—	62	197	—	—	—	1,579	—	—	—	—	7,500
Austria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	382,837	80,065
China	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	884,084
Brazil	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	111,000
Great Britain	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	81,000
Mexico	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37,000
	14,866	172,447	9,288	5,317	41,264	5,837	1,530	150	89,547	18,503	50,294	132	70	382,837	17,478	763,409

* Includes 6,782 bales of Paraguay cotton

† No returns received

‡ Including 960 bales of Paraguay cotton

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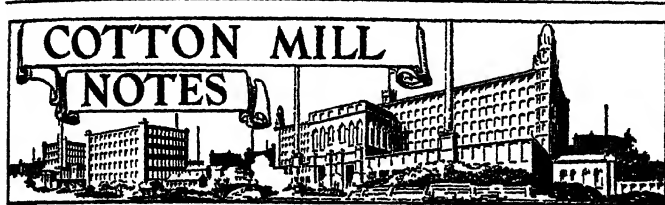
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The Effect of the New Deal on the U.S. Cotton Textile Industry.

The following extract is taken from the Department of Overseas Trade Report on Economic and Trade Conditions in the United States, by Mr. H. O. Chalkley, Commercial Counsellor to H.M. Embassy at Washington.

The code of the cotton textile industry under the National Industrial Recovery Act was the first to be formulated and went into effect in July, 1933. Hours of work in the industry were reduced from an average of 53 per week to 40, with a corresponding increase in employment of over 30 per cent., minimum wage rates were increased by about 50 per cent. to \$12 and \$13 per week in the South and North respectively, and child labour was finally abolished. For the first few months under the code the situation of the industry and labour was substantially improved. In the second half of 1933, however, a reaction occurred and business declined through the remainder of the year. In December machine-hour operations were curtailed by 25 per cent., without increase in wage rates. After a revival in the beginning of 1934 the industry again found it necessary to ask the National Recovery Administration for curtailment of 25 per cent. during the months of June, July and August. It was this curtailment without any compensatory increase in wage rates which caused labour to strike. The strike started on September 1 and involved over 50 per cent. of the workers. The National Recovery Administration appointed a mediation board and two weeks later the strike was settled. The United Textile Workers' Union was denied official recognition as the representative of the workers and the demand of a 30-hour week without decrease in weekly earnings was declared to be economically impossible. The President appointed a Textile Labour Relations Board for the supervision of the application of the labour provisions of Section 7 (a) of the Act to the industry and directed the Bureau of Labour Statistics to prepare "a comprehensive report on the actual hours of employment, earnings and working conditions in the textile industries" and the Federal Trade Commission to undertake an investigation "in order to furnish a basis for determining whether wage increases based upon reduction in hours or otherwise can, under prevailing economic conditions, be sustained."

The position of the cotton manufacturing industry as a whole appears to be somewhat better at the end of 1934, though exports have fallen heavily, and mill consumption of cotton for the year up to the end of October was about one-sixth less than in 1933. The Cotton Textile Institute is strongly in favour of maintaining machine-hour limitation. The industry is estimated to have lost \$60,000,000 in 1932, whereas, partly owing to rising prices and to a re-stocking of the secondary market, it is believed that a net profit was made in 1933 and the first six months of 1934. This does not permit any very optimistic forecast, however, for the industry is burdened by increased costs and a heavy processing tax and is beginning to encounter Japanese competition even on the home market. There has been much variation in spindle activity. Both the number of spindles active and the average number of spindle hours per spindle in place fell heavily between April and August, 1934.

Wages in the American Cotton Industry.

The report prepared by the Bureau of Labour Statistics of the U.S. Department of Labour upon the question of wage rates and weekly earnings in the cotton textile industry was recently made known.

Commenting upon the fact that, since the adoption of the cotton textile code, hourly earnings in that industry had been greatly augmented—the increase between July, 1933, and July, 1934, amounting to 64.5 per cent., the Bureau makes the following statement:—

“The mere fact of such increases, however, proves nothing with reference to the adequacy of the wages paid and the living standard they afford. The truth of the matter is that unrest has prevailed in the industry. The only question that is relevant is not whether discontent with earnings is justified or unjustified, but rather by what means, if any, this unrest may be allayed.”

The Bureau points out that “a large part of the feeling among workers that violations of the code are almost universal grows out of a misconception of the terms of the code, which suffers now from the manner in which its provisions were described in 1933.” “The feeling that the code actually provides for a wage of \$12 a week in the South and \$13 in the North is widespread, though erroneous,” states the report. “Actually these are the maximum weekly earnings possible to those working at the prescribed minimum wage of 30 cents and 32½ cents an hour. In no week since the adoption of the code has the industry averaged more than 36.5 hours per person, though 40 hours are necessary to attain the ‘minimum’ weekly earnings of \$12 and \$13 for those receiving the minimum hourly rate.”

In a statement commenting on the report, Mr. George A. Sloan, chairman of the Cotton Textile Code Authority, said that it served

effectively to dispose of typical charges concerning conditions and practices in the industry. He lists, in addition to the outstanding conclusions of the study noted above, the following major facts developed in the report: That employment during the first year under the code was in excess of 1929; that the minimum wage has not become the maximum; that, as required by the code, differentials in occupation above the minimum have evidently been maintained; that higher proportionate increases, as contemplated by the code, have been made in lower paid occupations below the minimum; and that in almost all mills studied there has been no change in rents to offset wage increases.

Two of the tables contained in the report follow:—

AVERAGE HOURLY EARNINGS BY OCCUPATIONS IN COTTON TEXTILES, 1933-34 (PRELIMINARY REPORT)

NORTHERN MILLS

Occupation	Average Hourly Earnings			Percentage of Change in Average Hourly Earnings		
	July, 1933	Aug., 1933	Aug., 1934	Aug., '34 July, '33	Aug., '33 July, '33	Aug., '34 Aug., '33
	c	c	c	%	%	%
Working foremen ..	50.3	61.8	68.6	136	123	111
Loom fixers ..	46.3	63.1	64.8	140	136	103
Second hands ..	44.2	61.5	62.8	142	139	102
Card grinders ..	34.1	47.9	49.7	146	140	104
Warp tying machine tenders ..	34.0	47.7	49.7	146	140	104
Section hands ..	33.7	47.6	48.7	144	141	102
Fixers, machinery ..	32.9	46.2	50.1	152	140	108
Smash hands ..	31.6	42.3	43.5	138	134	103
*Drawers-in, hand ..	30.8	42.7	42.7	139	139	100
Slubber tenders ..	30.3	46.1	48.8	161	152	106
Weavers ..	30.1	43.9	44.2	147	146	101
Speeder tenders ..	29.6	43.5	45.4	153	147	104
Card tenders and strippers ..	28.4	40.2	41.0	144	142	102
*Weavers ..	28.3	42.5	43.5	154	150	102
*Smash hands ..	27.9	39.6	38.9	139	142	98
Picker tenders ..	27.9	40.3	40.7	146	144	101
*Warper tenders ..	27.8	44.0	39.9	144	158	91
Spinners, frame ..	27.3	42.3	44.5	163	155	105
Helpers, general, factory ..	26.8	38.1	36.9	138	142	97
Doffers ..	26.4	41.3	43.2	164	156	105
Watchman ..	26.1	41.9	42.7	164	161	102
Drawing frame tenders ..	25.6	38.2	39.1	153	149	102
Truckers, hand ..	25.3	36.9	37.8	149	146	102
*Speeder tenders ..	24.7	39.6	40.2	163	160	102
*Doffers ..	24.7	35.2	35.9	163	143	102
Labourers, white ..	24.5	34.5	35.5	145	141	103
*Spinners, frame ..	23.9	37.3	37.8	158	156	101
Oilers ..	23.7	35.3	36.2	153	149	103
*Drawing frame tenders ..	23.7	35.4	35.2	149	149	99
Roving men ..	22.6	35.5	36.0	159	157	101
*Spooler tenders ..	22.1	36.4	38.0	172	165	104
*Trimmers and inspectors ..	20.9	33.2	33.5	160	159	101
Filling hands ..	20.5	33.6	34.3	167	164	102
*Cleaners, machinery ..	20.5	32.7	33.5	163	160	102
Cleaners, machinery ..	20.3	31.6	32.5	160	156	103
*Filling hands ..	20.2	33.4	33.5	166	165	100
*Labourers, white ..	18.4	31.3	33.3	180	170	106
Learners and apprentices ..	17.0	26.4	29.1	171	155	110
*Learners and apprentices ..	11.5	24.1	24.1	210	210	100

* Female, others male employees.

AVERAGE HOURLY EARNINGS BY OCCUPATIONS IN COTTON TEXTILES, 1933-34 (PRELIMINARY REPORT)

Occupation	SOUTHERN MILLS			Percentage of Change in		
	Average Hourly Earnings			Average Hourly Earnings		
	July, 1933	Aug., 1933	Aug., 1934	Aug., '34 July, '33	Aug., '33 July, '33	Aug., '34 Aug., '33
	c	c	c	%	%	%
Working foremen ..	40.1	57.2	60.7	151	143	106
Second hands ..	35.7	53.6	53.9	151	150	101
Loom fixers ..	32.4	49.9	50.7	156	154	102
Section hands ..	28.9	45.5	45.0	156	157	99
Card grinders ..	27.3	44.0	44.3	162	161	101
Warp tying machine tenders ..	25.5	42.4	43.6	171	166	103
Fixers, machinery ..	25.1	40.3	40.8	162	161	101
Warper tenders ..	24.2	36.6	37.3	154	151	102
Weavers ..	23.5	39.5	40.1	171	168	102
*Drawers-in, hand ..	23.2	38.3	38.8	167	165	101
Smash hands ..	22.3	35.9	36.2	162	161	101
Speeder tenders ..	21.5	36.5	36.8	171	170	101
*Weavers ..	21.5	38.4	38.2	177	179	99
Slubber tenders ..	21.3	37.2	37.4	175	175	101
Spinners, frame ..	19.7	34.3	33.8	172	174	99
*Speeder tenders ..	19.6	34.6	35.3	180	177	102
Doffers ..	19.5	34.4	34.9	179	176	101
Carders and strippers ..	19.4	32.4	32.5	172	167	100
*Warper tenders ..	19.4	34.0	33.3	172	175	98
Drawing frame tenders ..	19.1	32.8	33.8	177	172	103
Spooler tenders ..	19.0	32.1	33.2	175	169	103
*Smash hands ..	18.7	33.3	33.4	179	178	100
Watchman ..	18.6	30.8	32.7	176	166	106
Helpers, general, factory ..	18.3	31.6	32.1	175	173	102
Oilers ..	18.0	31.3	31.5	175	174	101
*Drawing frame tenders ..	18.0	31.5	30.9	172	175	98
Picker tenders ..	17.3	30.9	31.3	181	179	101
Creelers ..	17.1	31.1	31.2	182	182	100
Roving men ..	16.8	30.4	30.4	181	181	100
Truckers ..	16.6	29.9	30.3	182	180	101
Filling hands ..	16.5	30.8	31.1	189	187	101
*Spooler tenders ..	16.2	32.8	33.4	206	202	102
Cleaners, machinery ..	16.1	26.0	27.4	170	161	105
*Spinners, frame ..	16.1	23.7	32.1	199	147	135
*Creelers ..	16.0	31.5	31.0	194	197	98
*Trimmers and inspectors ..	16.0	31.0	31.0	194	194	100
Labourers, white ..	15.6	26.4	28.0	179	169	106
*Cleaners, machinery ..	14.9	25.9	27.8	187	174	107
Labourers, coloured ..	14.3	20.4	24.0	167	143	113
*Labourers, white ..	14.0	26.3	29.7	212	188	118
*Filling hands ..	13.7	30.6	30.7	224	223	100
Learners and apprentices ..	13.4	22.3	27.9	208	166	125
*Learners and apprentices ..	10.8	22.0	24.2	224	204	110
*Labourers, coloured ..	10.5	17.0	22.6	215	162	133

DOUBLE-SHIFT WORKING IN INDIA.

In a recent issue of the International Cotton Bulletin, we drew our readers' attention to the tendency in India to adopt double-shift working. In this connection it is interesting to note that in answer to a circular sent out recently by the Bombay Mill Owners' Association. 50 per cent. of Indian mills have replied that they are favourably interested in the proposal to restrict output to single-

shift working. The Association requires, however, the consent of 80 per cent. of the mills to single shifts before it can proceed to formulate definite measures to abolish double shifts.

In the absence of a categorical assurance by the requisite majority the Association is not in a position to make the next move. Nevertheless, the Committee of the Association is still seriously discussing the urgent need for restricting excess production, and an alternative scheme to bring about this result may be put forward.

It has been pointed out by the supporters of double-shift working that it is this that has enabled Japan to produce with her 100,000 looms against India's 200,000 looms almost the same amount of cloth as India. To double shifts again is ascribed the prosperity of the Japanese textile industry.

Another aspect of the replies that have been received by the Bombay Mill Owners' Association is that Indian-owned mills, with a Nationalistic outlook, show a disinclination to check the tendency to increase production by double shifts. Their argument is that Indian mills should continue progressively to increase their output until a stage is reached when the country's requirements are met solely from home products and textile imports cease altogether.

BRAZIL.

It is reported that, on the initiative of the Department of Agriculture of the State of São Paulo, an exhibition is to be held during the month of April, in the city of São Paulo, as a practical demonstration of what has been done in the development of the cotton industry. It is anticipated that all the cotton growing States of the Republic will take part in the exhibition, which will include all processes from planting to its industrial application.

The following is a list of the cotton factories in the various States in 1933, since when there has been little change:—

States.	No. of factories.	No. of spindles.	No. of looms.	No. of workpeople.
Maranhão	10	74,806	2,354	3,756
Ceará	11	30,128	955	2,695
Rio Grande do Norte	1	736	—	32
Parahyba	5	40,126	1,740	4,508
Pernambuco	18	126,710	5,224	11,943
Alagoas	10	104,336	3,196	6,573
Sergipe	10	85,895	2,848	5,441
Bahia	5	84,912	4,085	4,071
Espirito Santo	2	8,372	361	636
Rio de Janeiro	30	254,435	52,621	14,488
Federal District	28	724,962	16,943	21,190
Minas Geraes	91	290,304	7,848	13,683
São Paulo	119	816,822	26,056	25,863
Paraná	3	30	20	30
Santa Catharina	22	21,827	922	1,800
Rio Grande do Sul	4	33,804	1,198	2,100
Total	369	2,698,175	126,171	118,809

The quantity of cotton consumed in Brazil during the five years 1929-1933 was as follows: 1929, 78,604 metric tons; 1930, 65,500 tons; 1931, 72,500 tons; 1932, 89,763 tons; 1933, 94,005 tons.

JAPAN COTTON MILLS TO CURTAIL OUTPUT BY FIVE PER CENT.

A further curtailment of 5 per cent. in mill operations has been decided on by the Japan Spinners' Association. The decision was made at the regular meeting of the Association and is subject to the approval of a majority of its membership, which comprises 90 per cent. of the industry. At present the member companies of the Association are operating their mills in accordance with an agreement under which they close their mills for four days and nights each month, in addition to a suspension of 11.2 per cent. of the total spindleage. The decision for further curtailment, if approved, will mean a suspension ratio of 16.2 per cent., and is for the period from April 1 to June 30.

During the discussion of the question, members of the committee representing the interests of the larger spinning companies insisted that the present output reduction ratio should be maintained up to the end of June, and that a new arrangement should be sought at that time, after giving consideration to the trade situation. Members representing the interest of the minor companies insisted on a further production curtailment of 8 to 10 per cent.

SALVADOR.

A concession has been granted for the construction of a cotton-spinning mill, according to the December 15 issue of *Diario Oficial*. The new spinning mill will be located on the outskirts of San Salvador. The mechanical equipment is reported to be mainly American. A few carding machines have already been installed, and production is scheduled to commence about March, 1935, with 3,000 spindles. The estimated annual output on the basis of an 8-hour working day is 600,000 lbs., mainly in counts of 8/1, 18/1 and 24/2. The firm constructing the spinning mill at present has a cotton-weaving mill with 128 looms, 20 of which are automatic. The average yearly production of the weaving mill, on the basis of an 8-hour working day, is estimated to be about 1,200,000 yards of coloured-yarn drills and suitings in widths of 26 ins. and running three and four yards to the pound. The firm also has a knitting mill with 24 machines making seamless cotton hosiery.

Salvador has one other cotton-spinning mill, with 3,000 spindles, and an estimated annual output of 600,000 lbs. of 18/1 and 8/1 yarns.

MORE COTTON SPINNING AND WEAVING MACHINERY FOR CHINA.

Important additions to the Japanese-owned cotton-spinning and weaving mills in China are in the course of construction in Tsingtao, Shantung Province, China. The Japanese-owned mills in China

for many years have occupied an important position in the Chinese textile industry. Spindles in place in all mills in China now total about 4,708,000, of which more than one-third are in Japanese-owned mills. Of the 10 Japanese mills located outside of Shanghai, the centre of the cotton industry, six are situated in Tsingtao. These were built prior to 1923 and no new mills were erected until 1934, when two new mills were constructed. The larger of the two mills will have more than 40,000 spindles and 720 looms. The other will start with 35,000 spindles and 450 looms. The renewed investment of Japanese capital in Tsingtao cotton-mill enterprises indicates a confidence that China may assume an increasing importance in the world cotton-textile trade, not only as a market for piece goods but also as a potential exporter of yarn and piece goods. Exports of cotton yarn from China ranked second only to raw silk in the country's export trade in 1933, whereas in the previous year cotton yarn stood sixth in the list of China's leading exports. The combined exports of cotton yarn and piece goods accounted for almost 10 per cent. of China's total exportation in 1933. Exports of grey cotton yarn from China increased from 45,964,000 lbs. in 1929 to 72,000,000 lbs. in 1933, when Japan and Korea took about 44,826,000 lbs. Exports from Tsingtao in 1933 were 6,900,000 lbs. During the first ten months of 1934 exports of cotton yarn from China to Japan decreased considerably, but shipments to Korea and British India were holding up well.
(U.S. Department of Commerce.)

About mid-February activity in the Chinese-owned cotton-mills in China was estimated at about 60 per cent. of normal, compared with 80 per cent. one month earlier, and 90 per cent. in February, 1934. The Japanese-owned mills continued to operate at about normal, as has been true for the past year. In February last year these mills were operating at about normal. The decrease in activity in the Chinese mills was attributed to the Chinese New Year, but it is expected that activity in these mills may continue comparatively small for some time, due perhaps at least in part to the decline in yarn prices which further widened the disparity with cotton. Yarn sales during January were few and scattered. Mills and buyers were settling accounts and were reluctant to enter new transactions.
(U. S. D. C.)

GERMANY.

Cotton stocks at Bremen amounted to 313,000 bales at the end of January, against 320,000 at the end of December and 586,000 at the end of January, 1934. The visible supply of American cotton at the end of January amounted to 330,000 bales, compared with 278,000 at the end of December and 687,000 bales at the end of January, 1934.

The first quarter of 1934 was the only period of the year during which cotton imports were on a normal basis. During March, restrictions were put into effect prohibiting the purchase

or raw cotton until May 5. In that time spinners were permitted to buy only urgently required quantities. A cotton supervisory board was established in Bremen on June 1, 1934, which has handled all applications of cotton merchants and importers for the purchase of raw cotton.

All sources of supply from which cotton can be obtained through barter, either official or private, are being exploited. Cotton imports from Brazil are said to represent to a large extent private barter deals, since no clearing agreement has been completed between these two countries. Increased imports from Argentina and Turkey were facilitated by the existing clearing agreements. Negotiations for an agreement for an exchange of goods between Germany and Egypt have been completed. The trade balance between these countries has been heavily in favour of Egypt. Certain Egyptian firms are reported to permit German spinners to warehouse the cotton in Germany and to withdraw it in small lots as they receive permits from the Government to purchase the foreign exchange. Bremen merchants report also that a barter transaction has recently been concluded between Germany and the Egyptian Bank of Agriculture for the exchange of raw cotton against 20,000 tons of German artificial fertilizer. Persian firms which handle imports and exports in Germany are carrying out cotton barter transactions. It was reported that a German commission has been appointed to visit Persia for the purpose of investigating the possibility of larger purchases of cotton from that country.

The following table shows imports of raw cotton into Germany, for the first five months of the season, in the past five years—total imports and imports by countries. The effects of the present import regulations are clearly shown both by the absolute import figures and by the relatives on the percentage distribution of imports by countries.

IMPORTS—AUG. 1-DEC. 31, 1930-31 to 1934-35.

Country of origin	1930-31		1931-32		1932-33		1933-34		1934-35	
	Imports	Per cent. of total	Imports	Per cent. of total	Imports	Per cent. of total	Imports	Per cent. of total	Imports	Per cent. of total
	Bales 478 lbs. net	—	Bales 478 lbs. net	—	Bales 478 lbs. net	—	Bales 478 lbs. net	—	Bales 478 lbs. net	—
U.S. ..	636,012	78.7	485,172	75.7	570,095	78.8	598,825	75.2	193,992	49.1
Egypt ..	44,318	5.5	54,966	8.6	49,194	6.8	66,470	8.3	41,181	10.4
India ..	84,787	10.5	48,834	7.6	40,716	5.6	64,225	8.1	24,528	6.2
Argentina ..	8,516	1.1	5,415	0.8	14,311	2.0	11,713	1.5	12,414	3.1
Peru ..	17,525	2.2	24,207	3.8	25,448	3.5	23,511	3.0	28,172	7.1
Brazil ..	4,467	0.6	1,894	0.3	24	*	—	—	30,946	7.8
Russia ..	158	*	—	—	90	*	2,424	0.3	6,557	1.7
All other ..	12,101	1.4	20,435	3.2	23,404	3.2	28,939	3.6	57,482	14.5
Total ..	807,864		640,923		723,282		796,107		395,172	

* Less than 0.05 per cent.

According to recent private reports the expansion of artificial fibre production is now being pushed energetically, and the Government has assumed extensive guarantees for the erection of new

plants, etc. It is also reported that at the Leipzig Spring Fair the complete process of artificial fibre production will be shown in a separate exhibition.

COTTON MACHINERY FOR ARGENTINA.

Machinery for the spinning of Argentine cotton may be imported into the Republic free of duty during 1935 and 1936, as also may machinery to be used in Argentine cotton yarn and textile manufacture.

U.S.S.R.

Two sets of figures have recently become available on the output of the cotton textile industry in 1934. The deceased Kuybishev, deputy chairman of the Council of People's Commissars, in his speech early in January, indicated that 2,711,000,000 metres (2,965,000,000 yds.) of finished cotton goods were produced in 1934. It appears, however, that this figure either contains some varieties of fabrics normally not classified under "finished fabrics" or for other reasons is not comparable with the monthly production figures generally published by the Russian press. Total production of cotton fabrics in 1934, according to the latter figures, amounted to 2,368,000,000 metres (2,590,000,000 yards), or to 89.9 per cent. of the plan. Since the output during the first 11 months of 1934 was reported to have amounted to 2,129,000,000 metres (2,328,000,000 yards), December production appears to have been 239,000,000 metres (262,000,000 yards).

The 1935 production plan foresees a total output of cotton fabrics of 2,668,000,000 metres (2,918,000,000 yards) compared with the original 1934 plan of 2,927,000,000 metres (3,201,000,000 yards) published at the beginning of January, 1934.

(U. S. D. A.)

CHILE.

Mr. Arthur J. Pack, Commercial Secretary to H.M. Embassy at Santiago, in a report upon economic conditions in Chile, published recently by H.M. Stationery Office for the Department of Overseas Trade, makes the following observations regarding the cotton industry in Chile:—

With regard to cotton goods, Chile has not hitherto been a producer of yarns, but a spinning mill has recently been installed and will shortly commence operations. This will, however, only be able to supply a small part of the market for low count yarns. There are nine cotton cloth mills in production but details of the equipment are lacking. One estimate places the number of looms at not more than a thousand, but it is quite likely that this figure

has now been exceeded as production has increased during the period of reduced imports and more looms have been brought in. Unfortunately, no statistics of production are available, although an index figure having a base of 100 for 1927-1929 is compiled by the Chilean statistical department. This figure for August, 1934, was 348.2, which is the highest recorded since 1927. All classes of cotton goods are now produced, but the output still falls far short of the consumption requirements of the country.

REVIVAL OF HANDLOOMS IN BENGAL.

The Government of Bengal are undertaking active measures for resuscitation of the handloom industry in Bengal. The Government of India have granted to them a sum of Rs.35,000 for the current year and Rs.85,000 for the next year for this purpose. The Bengal Government have planned a scheme after considering the difficulties which have led to the present decay in the handloom industry. Among those are:—

- (1) Absence of training of weavers in new designs of patterns, texture and finish.
- (2) Difficulty of obtaining yarn at a cheap rate.
- (3) Want of expert advice to reduce the cost of production to a minimum.
- (4) Difficulty in disposal of finished products.

POLAND.

COTTON EXCHANGE AT GDYNIA?

There is a movement on foot to establish, in the comparatively near future, a cotton exchange at Gdynia, Poland's port on the Baltic. The articles of association and technical regulations were recently adopted at a meeting of the Chamber of Commerce and Industry in Lodz, and, according to report, now only require the approval of the Ministry of Trade. Incidentally imports of cotton into Gdynia have increased from 205 tons in 1929 to 81,955 tons in 1934 (61,740 tons from America); 72 per cent. of total imports in 1934 represented direct imports from foreign countries.

U.S. 1934 TEXTILE CONSUMPTION FALLS SHORT OF 1933 TOTAL BY 13.0 PER CENT.

Consumption of textile fibres—namely cotton, wool, silk and rayon—for the year 1934 aggregated 3,164,000,000 lbs., a decrease of 13.0 per cent. compared with the consumption of 3,646,600,000 lbs. reported for 1933, according to figures compiled by the *Textile Organon*, published by the Tubize Chatillon Corporation. The consumption of all fibres registered a decline from the previous

year, amounting to 13 per cent. for cotton, 26 per cent. for wool, 2 per cent for silk and 4 per cent for rayon. With the exception of 1933, the consumption of rayon was the largest for any year on record. Silk consumption was the smallest for any year since 1924. Wool consumption was the smallest in more than 15 years.

Based upon the figures contained in the current issue of the *Organon*, consumption of the various textile fibres during the past few years follows:—

			Cotton	Wool	Silk	Rayon	Total
				(Units are millions of pounds)			
1934	..	..	2,662.9	240.2	61.4	199.5	3,164.0
1933	..	..	3,052.5	324.3	62.4	207.4	3,646.6
1932	..	..	2,457.6	240.9	73.7	152.2	2,924.4
1931	..	..	2,656.7	320.9	79.1	157.3	3,214.0
1930	..	..	2,608.3	268.8	77.4	117.2	3,071.7
1929	..	..	3,426.3	365.6	82.4	131.3	4,005.6
1928	..	..	3,187.4	336.6	75.9	100.1	3,700.0

Commenting upon the activities of the past year, the *Organon* states that "the data indicate that wool consumption declined the most from 1933 to 1934, while silk consumption declined the least. This showing is somewhat misleading, unless the already low level of 1933 silk consumption is taken into account. By the same token, the declines of cotton and rayon from their relatively high 1933 levels are correspondingly less serious."

Regarding the long term trends of the respective divisions, the paper points out that "cotton maintained its important and dominant position in consumption, wool consumption continued the decline which has been exceptionally noticeable since 1929, rayon's growth trend which has obtained since 1920 is uninterrupted, and silk consumption reached a plateau from its consumption decline which has been noticeable since 1929."

ENGLAND.

The new wages agreement for legislation in the weaving section of the cotton industry was signed on Friday, March 15, and the formal application for its scheduling under the Cotton Manufacturing Industry (Temporary Provisions) Act signed in Manchester on March 19.

THE BRITISH COTTON TRADE AND SURPLUS SPINDLES.

The President of the Board of Trade, Mr. Walter Runciman, in the House of Commons recently, said, in reference to a question of the setting up of a Departmental Committee to consider industrial reorganization, that he did not believe there could be a solution of the whole problem by any cut-and-dried method.

Turning to the cotton industry, Mr. Runciman quoted it as an instance of the Government stepping in to give assistance where the industry had tried to help itself.

A scheme had been prepared under the direction of a committee over which Lord Colwyn presided to get rid of redundant spindles. The necessary majority had been secured in support of the proposal.

This provided for the wiping out of 10,000,000 spindles, many of which were already idle. The displacement of labour, he was assured, would not be a serious problem.

The total cost of compensation was estimated at £2,500,000. By the sale of scrap £500,000 would be realized, leaving £2,000,000 to be found. That would be a charge on the industry for 15 years to the extent of £180,000 a year.

There was a possibility that the surviving spindles might not be able to provide that. Therefore the Government had gone so far as to undertake to guarantee the payment of that sum if the industry was unable to produce the money.

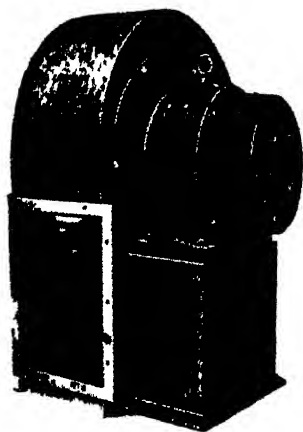
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COTTON TRADE STATISTICS

INDIA.

The following are the imports of cotton textiles into India for the nine months April 1 to December 31, 1934, as supplied by H.M. Senior Trade Commissioner in India :—

Cotton Yarns.—The total imports fell from 24,513,102 lbs. valued at Rs.195 lakhs to 22,431,979 lbs. valued at Rs.204 lakhs. The share of the United Kingdom fell slightly from 7,754,188 lbs. (Rs.73 lakhs) to 7,003,007 lbs. (72 lakhs). Imports from Japan fell in quantity from 8,883,873 lbs. to 7,817,509 lbs., but rose in value from Rs.70 lakhs to Rs.82½ lakhs. In the case of China, the imports fell quantitatively from 7,734,932 lbs. to 7,506,525 lbs., but rose in value from Rs.48 lakhs to Rs.53½ lakhs.

Grey Piece Goods (plain grey).—The total imports advanced from 104,835,073 yards (Rs.128 lakhs) to 121,876,665 yards (Rs.161 lakhs). Arrivals from the United Kingdom dropped from 19,531,164 yards valued at Rs.27 lakhs to 16,975,911 yards valued at Rs.22½ lakhs. On the other hand, imports from Japan rose from 85,008,254 yards to 104,177,540 yards and from Rs.100 lakhs to Rs.136½ lakhs.

Grey Piece Goods (bordered greys).—The aggregate imports rose from 75,175,605 yards valued at Rs.105 lakhs to 83,063,590 yards valued at Rs.121 lakhs. Imports from the United Kingdom increased from 47,365,585 yards (Rs.75 lakhs) to 55,302,024 yards (Rs.88½ lakhs). On the other hand, imports from Japan fell slightly in quantity from 27,808,840 yards to 27,690,398 yards, but rose in value from Rs.29½ lakhs to Rs.32½ lakhs showing some stiffening in Japanese prices.

White Piece Goods (bleached).—The total trade rose from 187,264,863 yards valued at Rs.331 lakhs to 202,808,759 yards valued at Rs.389 lakhs. A more satisfactory advance is to be recorded in the United Kingdom share from 132,046,740 yards (Rs.260 lakhs) to 169,774,973 yards (Rs.323 lakhs). This is in sharp contrast to a reduction in the Japanese share (resulting from the quota) from 53,321,379 yards (Rs.65 lakhs) to 27,001,592 yards (Rs.44 lakhs).

Printed Piece Goods.—The total arrivals rose from 95,746,760 yards (Rs.160 lakhs) to 140,997,413 yards (Rs.247 lakhs). As a result of recent reductions in Lancashire printing prices, the United Kingdom share increased from 37,392,027 yards (Rs.89 lakhs) to

67,700,157 yards Rs.144 lakhs. Arrivals from Japan rose in lesser proportion from 58,233,707 yards (Rs.71 lakhs) to 72,286,113 yards (Rs.101 lakhs).

Dyed Piece Goods.—Here again the total arrivals rose sharply from 9,800,699 yards (Rs.155 lakhs) to 91,127,312 yards (Rs.218 lakhs). The United Kingdom share rose satisfactorily from 51,203,500 yards Rs.127 lakhs) to 74,059,842 yards (Rs.183 lakhs), whereas imports from Japan contracted from 17,748,207 yards (Rs.25½ lakhs) to 12,657,921 yards (Rs.21 lakhs). Imports from Switzerland rose from 84,077 yards (Rs.45 thousand) to 1,701,467 yards Rs.6½ lakhs).

Woven Coloured Piece Goods.—The aggregate trade rose from 20,347,679 yards Rs.46 lakhs, to 25,871,868 yards (Rs.70 lakhs). Here again, the United Kingdom share advanced from 6,928,272 yards Rs.22 lakhs, to 10,677,771 yards (Rs.32½ lakhs). Japanese shipments also rose from 13,173,733 yards (Rs.23 lakhs) to 14,489,857 yards Rs.34 lakhs. Imports from other countries were negligible.

Fents.—The total imports of fents rose from 25,954,899 yards (Rs.33 lakhs) to 36,156,728 yards (Rs.59 lakhs). Imports from the United Kingdom fell from 8,459,029 yards (Rs.12 lakhs) to 7,140,263 yards (Rs.10 lakhs), whereas those from Japan rose from 6,534,712 yards (Rs.9 lakhs) to 23,973,426 yards (Rs. 44 lakhs). This expansion in the imports of Japanese fents is noteworthy as fents are not included in the Japanese quota. Doubts have been expressed in many quarters as to whether certain of the imports are in fact bona-fide remnants.

Cotton Sewing Thread.—There is a satisfactory improvement in the total trade from 1,386,534 lbs. valued at Rs.38 lakhs to 1,599,869 lbs. valued at Rs.41½ lakhs. While the United Kingdom share remained generally satisfactory at 1,291,581 lbs. (Rs.34 lakhs), that of other countries, notably Holland, rose from 171,601 lbs. (Rs.4 lakhs) to 308,288 lbs. (Rs.7½ lakhs).

ITALY.

THE DEGREE OF ACTIVITY IN ITALIAN COTTON SPINNING AND WEAVING FIRMS GIVEN FOR EACH MONTH.

(1) COTTON SPINNING

Year.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	S-pt.	Oct.	Nov.	Dec.	Yearly Ave.
1930 ..	105 91	106 18	102 13	96 43	90 68	83 53	80 65	66 20	91 69	83 80	86 03	79 20	85 58
1931 ..	82 11	80 44	80 01	74 50	80 19	70 35	77 46	71 50	83 98	85 28	86 15	82 32	80 29
1932 ..	82 16	83 02	83 80	86 07	88 00	84 37	78 00	64 89	83 85	87 58	90 67	89 83	83 67
1933 ..	92 80	94 06	95 60	91 28	98 16	98 43	94 42	77 41	97 34	99 40	102 27	94 94	94 68
1934 ..	90 24	94 07	94 58	92 12	91 12	94 61	78 49	64 32	81 61	85 06	85 56	80 01	85 05
1935 ..	86 10	—	—	—	—	—	—	—	—	—	—	—	—

(2) COTTON MANUFACTURING

Year.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	S-pt.	Oct.	Nov.	Dec.	Yearly Ave.
1930 ..	99 17	101 35	99 47	98 69	89 55	85 01	79 24	67 06	75 14	79 35	78 84	78 09	85 75
1931 ..	74 09	77 85	75 07	75 05	75 81	75 97	74 50	67 87	77 00	76 64	77 08	72 19	74 91
1932 ..	74 99	77 36	78 30	78 30	77 86	76 87	73 07	62 38	75 16	80 53	79 73	79 99	76 18
1933 ..	81 02	84 31	85 34	83 01	85 29	87 32	85 36	70 69	84 69	88 76	84 74	83 20	83 66
1934 ..	82 77	82 24	88 85	85 27	85 40	79 50	74 90	58 98	74 35	78 07	79 18	75 59	78 53
1935 ..	177 06	—	—	—	—	—	—	—	—	—	—	—	—

The year 1924 is taken as representing the figure 100.

CANADA.

Imports of cotton manufactures during the 12 months ended October, 1934, were about 22 per cent. greater than receipts for the preceding year, according to official returns. The figures follow:

Imported from	12 months ended October	
	1933	1934
(Thousands of dollars, Canadian)		
All countries	12,214	14,869
United Kingdom	7,021	9,618
United States	3,332	3,187

Receipts of cotton yarn and piece goods from the United States declined, notwithstanding an increase in the total importation of these commodities. Details are shown in the following table (for 12 months ended with October, 1933 and 1934):—

Commodity			From		From		From	
			All Countries		United Kingdom		United States	
			1933	1934	1933	1934	1933	1934
			(Thousands)		(Thousands)		(Thousands)	
Cotton yarn	{ lbs.	.. ..	4,289	4,814	2,991	4,202	1,291	602
	{ dollars	.. ..	2,203	2,455	1,572	2,070	626	367
<hr/>								
Cotton piece goods								
Unbleached	lbs.	.. ..	4,435	5,691	1,384	2,919	3,023	2,762
Bleached	"	.. ..	1,766	1,921	1,211	1,427	493	424
Printed	"	.. ..	2,222	2,377	1,638	1,932	470	346
Piece-dyed	"	.. ..	3,421	4,178	2,232	3,063	555	481
Yarn-dyed	"	.. ..	577	821	288	596	159	71
<hr/>								
Total	"	.. ..	12,421	14,988	6,753	9,937	4,700	4,084

RAYON

ESTIMATED PRODUCTION OF RAYON BY COUNTRIES AND PROCESSES

In metric tons—Year 1934					
Country	Viscose	Acetate	Cupra.	Coll	Total
Austria	550	—	—	—	550
Belgium	3,915	365	—	—	4,280
Brazil	775	225	—	—	1,000
Britain	34,055	5,430	1,350	—	40,835
Canada	3,570	1,050	—	—	4,620
Czecho-Slovakia	2,900	—	—	—	2,900
France	29,250	2,800	—	—	32,050
Germany	32,350	2,150	7,050	—	41,550
Greece	80	—	—	—	80
Holland	9,550	—	—	—	9,550
Hungary	—	—	—	135	135
Italy	45,685	1,400	1,350	—	48,435
Japan	68,620	—	2,650	—	71,270
Poland	4,350	—	—	—	4,350
Spain	2,250	—	—	—	2,250
Sweden	420	—	—	—	420
Switzerland	4,750	—	—	—	4,750
United States	78,500	11,600	3,800	1,600	95,500
<hr/>					
Totals for 1934	318,570	25,020	16,200	1,735	361,525
<hr/>					
Totals for 1933	246,670	24,490	10,415	2,730	284,305

COTTON TRADE STATISTICS

WORLD PRODUCTION OF RAYON

		In metric tons			
Country		1934	1933	1932	1931
Austria...	..	550	660	400	—
Belgium ..	..	4,280	4,363	4,445	4,725
Britain ..	..	40,835	38,220	32,960	24,805
Canada...	..	4,620	3,460	3,235	2,530
Czecho-Slovakia ..	..	2,900	2,500	2,370	2,200
France ..	..	32,050	26,000	21,480	16,330
Germany ..	..	41,550	31,000	29,400	25,000
Holland ..	..	9,550	10,750	8,820	9,000
Italy ..	..	48,435	37,153	31,885	34,600
Japan ..	..	62,270	45,200	29,270	21,250
Poland ..	..	4,350	3,670	3,300	2,375
Switzerland ..	..	4,750	4,800	5,025	4,500
United States ..	..	95,500	94,000	59,585	64,000
Other countries ..	..	3,885	3,075	3,340	2,480
Total ..	..	<u>361,525</u>	<u>304,853</u>	<u>235,715</u>	<u>213,995</u>

PERCENTAGE OF TOTAL BY PROCESSES

		Viscose	Acetate	Cupra.	Coll.	Total
1934 ..	..	88.0	7.0	4.5	0.5	100.0
1933 ..	..	87.0	8.5	3.5	1.0	100.0
1932 ..	..	88.0	8.0	2.75	1.25	100.0
1931 ..	..	88.75	7.5	2.5	1.25	100.0

RAYON YARN TRADE OF CHIEF PRODUCING COUNTRIES

		Exports of Yarn in metric tons				
From		1934	1933	1932	1931	1930
Belgium ..	..	3,584	2,680	2,494	2,766	3,033
United Kingdom ..	..	5,066	3,039	3,074	2,144	2,922
France ..	..	8,717	7,370	6,091	6,441	7,937
Germany ..	..	6,207	7,522	6,828	5,985	6,962
Holland ..	..	6,107	6,243	6,270	10,069	9,216
Italy ..	..	20,552	16,043	16,914	20,990	18,857
Japan ..	..	10,192	4,061	3,378	1,197	1,456
Switzerland ..	..	4,469	4,689	3,652	4,512	4,221
United States ..	..	1,154	504	297	143	157
Total ..	..	<u>66,048</u>	<u>52,151</u>	<u>48,998</u>	<u>54,247</u>	<u>54,761</u>

Imports of Yarn in metric tons

Into		1934	1933	1932	1931	1930
Belgium ..	..	935	1,150	550	664	772
United Kingdom ..	..	1,236	1,248	1,007	714	515
France ..	..	1,729	1,415	198	161	264
Germany ..	..	11,352	10,259	10,284	11,404	11,675
Holland ..	..	1,205	989	649	700	1,041
Italy ..	..	1,058	972	903	1,360	1,250
Japan ..	..	26	230	129	592	383
Switzerland ..	..	2,877	3,003	2,451	2,461	1,889
United States ..	..	38	2,078	89	515	1,922
Total ..	..	<u>20,456</u>	<u>21,344</u>	<u>16,260</u>	<u>18,571</u>	<u>19,711</u>
Difference (exports less imports) ..	..	45,592	30,807	32,738	35,676	35,050
Approximate European surplus exported ..	..	34,310	28,550	29,281	35,443	35,742

U.S.A.

The rapid expansion of the U.S.A. as a market for cotton goods is aptly shown by the following imports from Japan, according to records of the U.S. Department of Commerce, recently made public:—

UNITED STATES IMPORTS OF COTTON CLOTH FROM JAPAN
(In square yards).

	Total	Bleached piece goods	Printed, dyed and coloured
1934	7,287,000	6,044,000	1,243,000
1933	1,116,000	257,000	859,000
1932	789,000	51,000	738,000
1931	770,000	100,900	670,000
1930	1,016,000	48,000	967,000
1929	1,217,000	176,000	1,038,000

EXPORTS OF RAW COTTON AND COTTON GOODS FOR 1934

				Twelve months ending December, 1934	
				Quantity	Dollars
COTTON, UNMANUFACTURED	..	..	{ bales 1,000 lb.	5,942,622 3,148,634	372,755,418
Raw cotton, except linters	..	..	{ bales 1,000 lb.	5,753,144 3,028,802	367,165,106
American Egyptian (Pima)	..	..	{ bales 1,000 lb.	417 222	54,272
Other, 1½ in. and over	..	..	{ bales 1,000 lb.	89,663 46,951	5,846,946
Upland, under 1½ in.	..	..	{ bales 1,000 lb.	5,663,064 2,981,629	361,263,888
Linters :					
Grades 1 to 7, inclusive	..	..	{ bales 1,000 lb.	189,357 119,731	5,587,012
Grade 8 .. .. .	..	..	{ bales 1,000 lb.	121 101	3,300
COTTON SEMI-MANUFACTURES	..	..	.. lb.	109,459,910	9,485,972
Cotton pulp.. .. .	..	..	.. "	26,918,593	2,038,105
Cotton-mill waste ..	..	..	.. "	53,797,408	3,502,766
Cotton rags, except paper stock	..	..	.. "	20,026,701	930,864
Cotton batting, carded cotton, and roving	..	..	.. "	1,089,049	150,471
Cotton yarn :					
Carded yarn, not combed	..	..	.. "	4,743,794	1,314,623
Combed yarn :					
Mercerized .. .. .	..	..	.. "	1,860,089	1,197,863
Not mercerized .. ..	..	..	.. "	1,024,276	351,280
COTTON MANUFACTURES	..	..	..	—	33,973,048
Cotton thread and cordage :					
Sewing thread .. .. .	..	..	..	697,693	584,049
Crochet, darning, and embroidery cotton	21,004	21,289
Twine and cordage	2,590,573	856,123

COTTON TRADE STATISTICS

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EXPORTS OF COTTON GOODS, &c.—*continued*

					Twelve months ending December, 1934	
					Quantity	Dollar.
Cloth, duck, and tyre fabric	sq. yd.		226,305,977	24,650,063
Tyre fabric :						
Cord	916,752	310,732
Other	524,019	155,212
Cotton duck	5,276,631	1,295,722
Heavy filter, paper dryer, hose and belting duck					368,274	125,837
Unbleached :						
Ounce	2,614,206	466,622
Numbered	1,465,183	467,908
Bleached	374,652	99,201
Coloured	454,316	136,154
Cotton cloth, unbleached	34,412,698	3,944,549
Drills, twills, and sateens					4,064,737	403,668
Sheetings 40 in. wide and under					34,036,764	2,133,763
Sheetings over 40 in. wide					516,307	43,629
Osnaburgs					12,924,726	1,136,222
All other unbleached					2,870,164	227,267
Cotton cloth, bleached	40,551,509	4,263,341
Drills, twills, and sateens					2,946,537	442,409
Pyjama checks					718,975	72,078
Sheetings 40 in. wide and under					12,025,292	1,102,960
Sheetings over 40 in. wide					5,731,910	602,814
All other bleached					19,128,795	2,043,080
Cotton cloth, coloured	124,624,368	14,686,507
Voiles					14,254,019	1,576,600
Percalés and prints, 32 in. and narrower					1,130,016	123,688
Percalés and prints, over 32 in. wide					11,658,927	1,354,619
Flannels and flannelettes					914,288	112,387
Khaki and fustians					2,729,362	552,540
Denims					8,848,525	1,171,374
Suitings (drills, etc.)					13,340,170	1,848,494
Ginghams					856,533	82,151
Chambrays					10,982,338	973,128
Other printed fabrics :						
7½ and more yds. per lb.					14,226,283	1,723,595
Less than 7½ yds. per lb.					14,344,026	1,612,323
Other piece-dyed fabrics :						
5 and more yds. per lb.					20,187,868	1,962,777
Less than 5 yds. per lb.					6,530,962	881,872
Other yarn-dyed fabrics					3,237,326	436,373
Cotton and rayon mixtures (chief value cotton)					1,309,719	256,460
Cotton and silk mixtures (chief value cotton)					74,006	18,126
Other cotton fabrics :						
Blankets					605,622	286,735
Damasks					485,294	96,669
Pile fabrics, plushes, velveteens, and corduroys					263,028	182,870
Tapestry and other upholstery goods					99,138	54,854
Fabrics sold by the lb.					5,302,276	1,066,033

COTTON TRADE STATISTICS

EXPORTS OF COTTON GOODS, ETC.—continued

				Twelve months ending December, 1934	
				Quantity	Dollars
COTTON UNMANUFACTURED				—	3,063,434
Hosiery:					
Hosiery	doz. pr.			40,997	65,801
Hosiery				246,387	401,420
Women's				85,754	143,482
Children's				57,633	84,373
Men's socks				103,000	173,565
Cotton clothing:					
Men's suits	doz.			59,275	191,722
Women's and misses'				45,531	124,561
Children's and infants'				10,073	21,392
Sweaters, sweaters and other knit items	No.			100,820	62,551
Other wearing apparel:					
Collars and cuffs	doz.			22,514	18,596
Cotton overalls, breeches, and pants				19,050	190,862
Underwear not knit				32,392	127,320
Shirts				95,100	777,154
Dresses, skirts and waists	No.			849,802	666,694
Other cotton clothing				—	415,361
Other cotton manufactures:					
Handkerchiefs	doz.			83,655	59,560
Laces, embroideries, and lace window curtains	yd.			1,287,445	73,513
Woven belting for machinery	lb.			169,809	89,486
Cotton lugs				4,524,615	1,193,194
Quilts, comforters, counterpanes and bedspreads	No.			72,159	100,849
Bed sheets, pillow holsters, and mattress cases	doz.			13,399	79,889
Towels, bath mats, and wash cloths				120,513	168,729
Other cotton manufactures n.e.s.				—	1,339,709

IMPORTS OF RAW COTTON AND COTTON GOODS FOR 1934

				Twelve months ending December, 1934	
				Quantity	Dollars
COTTON UNMANUFACTURED				70,821,874	9,456,035
Staple under 1½ in., free				23,375,601	2,088,809
Staple 1½ to 1¾ in., dut				26,899,570	3,822,863
Staple 1¾ in. or over, dut				20,546,703	3,544,363
COTTON SEMI-MANUFACTURES				—	3,627,833
Cotton waste, free				61,865,639	2,170,944
Yarns and warps:					
Not bleached, dyed, etc., dut				1,083	203
Bleached, dyed, combed or plied, dut				1,742,472	1,456,686
COTTON MANUFACTURES				—	28,278,100
Sewing thread, crochet, darning, and em- broidering cotton, dut	1,000 yd.			971,712	651,301

COTTON TRADE STATISTICS

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IMPORTS OF COTTON GOODS, &c—continued

Twelve months ending
December, 1934
Quantity Dollars

Cotton cloth :					
Not bleached, etc., dut	..	..	sq. yd.	3,868,862	639,612
Bleached, dut	..	..	"	20,509,249	2,361,505
Printed, coloured, etc., dut	..	..	"	17,153,536	3,534,305
Cotton fabrics, n.e.s. :					
Cloth, less than 17 per cent. wool, dut			lb.	1,464	2,723
Tapestries and upholstery, dut	..	..	"	—	799,694
Velvets and velveteens, dut	..	..	sq. yd.	169,888	72,100
Other pile fabrics, dut	..	..	"	—	183,001
Table damask, dut	..	..	"	—	279,575
Table covers, napkins, etc., dut	..	..	"	—	524,461
Blankets and blanket cloth, dut	..	..	lb.	3,984	1,195
Bed spreads and quilts, dut	..	..	No.	989,117	880,835
Sheets, pillowcases, etc., dut	..	..	"	—	106,271
Wearing apparel :					
From Philippine Islands, free	..	..		—	2,120,684
Knit or crocheted goods :					
Gloves and mittens, dut	..	..	doz. pr.	2,312,944	5,214,358
Hosiery, dut	..	..	"	456,087	515,607
Underwear and other, dut	..	..	"	—	330,532
Wearing apparel, not knit, dut	..	..	"	—	240,626
Apparel, wholly or partly of lace, or embroidered, etc., dut	..	..	"	—	128,812
Handkerchiefs and mufflers, not of lace, not embroidered, etc., dut	..	..	doz.	1,338,889	234,937
Handkerchiefs, lace-trimmed, or embroidered, dut	..	..	No.	156,562	10,478
Laces, embroideries, etc. :					
From Philippine Islands, free	..	..	"	—	139,191
Hand-made laces, dut	..	..	"	—	210,989
Machine-made laces, dut	..	..	"	—	3,091,615
Articles in part of lace, etc., dut	..	..	"	—	216,998
Lace window curtains, dut	..	..	"	—	203,560
Embroideries, dut	..	..	"	—	9,060
All other, dut	..	..	"	—	1,193,295
Cotton floor coverings, dut	..	..	sq. yd.	11,123,136	1,942,596
Belting for machines, dut	..	..	lb.	235,517	112,917
Rags, except paper stock, dut	..	..	"	17,450,149	724,339
All other, dut	..	..	"	—	1,400,928

COTTON MANUFACTURES

“Imports for consumption” of cotton cloth, by classes and countries, during 1934 are shown in the following table:—

Imported from	Unbleached			Bleached		
	Sq. yds.	lbs.	Value \$	Sq. yds.	lbs.	Value \$
Belgium ..	825	586	210	10,647	3,809	2,580
Czecho-Slovakia ..	178,299	51,512	20,833	22,246	5,000	7,281
France ..	150	48	41	93,345	10,750	28,624
Germany ..	23,675	7,777	3,817	51,104	66,745	57,566
Italy ..	60,860	49,372	18,840	1,623	344	475
Netherlands ..	40,855	13,528	6,141	27,761	12,523	7,645
Switzerland ..	249,933	34,168	52,737	11,694,507	788,860	1,562,382
United Kingdom ..	3,314,027	668,978	536,899	2,560,120	434,141	642,132
Canada ..	238	300	94	450	90	60
Japan ..	—	—	—	6,043,845	851,181	252,215
Total ..	3,868,862	826,269	639,612	20,505,648	2,173,443	2,560,954

COTTON TRADE STATISTICS

COTTON MANUFACTURES—continued

	Printed, Dyed or Coloured		Value
	Sq. yds.	lbs.	
Imported from			\$
Belgium	3,048,902	1,047,579	513,935
Czecho-Slovakia	1,588,586	464,957	307,575
France	243,565	64,980	122,490
Germany	358,274	132,480	106,770
Italy	666,742	137,245	197,158
Netherlands	2,054,500	601,420	418,108
Poland and Danzig	15,675	5,303	1,546
Soviet Russia in Europe	1,332	575	266
Spain	164,312	62,777	29,566
Sweden	12,173	3,957	3,665
Switzerland	3,723,531	277,314	715,314
United Kingdom	4,026,843	837,855	1,005,555
British India	8,607	2,812	1,713
China	333	67	45
Hong Kong	2,006	541	264
Japan	1,243,172	281,522	110,986
Philippine Islands	1,116	280	252
Total	17,159,869	3,923,664	3,535,205

January, 1935, "imports for consumption" of cotton cloth and the quantity and value of cotton piece goods entered into bonded Customs warehouses during the same month follow:—

Class	From all countries			From Japan		
	Sq. yds.	lbs.	Value \$	Sq. yds.	lbs.	Value \$
Unbleached	30,662	5,074	3,782	—	—	—
Bleached	1,688,230	222,784	113,222	1,330,361	195,656	58,651
Printed, dyed or coloured	1,253,206	263,031	142,757	650,680	115,320	39,012
Total	2,972,098	490,889	259,761	1,981,041	310,976	97,663

Except for 2,708 square yards, weighing 1,419 lbs. and valued at \$890, entered at Chicago, all shipments from Japan were entered into bonded warehouses at New York.

CHINA.

IMPORTS OF RAW COTTON, COTTON YARN, AND COTTON PIECE GOODS, 1933 and 1934.

	1934	1933
	\$	\$
Cotton piece goods :		
Grey	2,242,558	3,435,727
White or dyed	15,999,350	30,534,546
Printed	5,752,064	17,821,737
Miscellaneous	2,766,386	6,451,423
Cotton, raw ; cotton yarn, and cotton thread	96,095,452	104,806,495
Cotton manufactures, sundry	3,365,785	6,356,691

EXPORTS OF COTTON GOODS FROM HOLLAND.

January - December, 1934.

Country	Grey		Bleached		Dyed		Printed		Coloured Woven		Total	
	Gross Weight	Value 1,000 gulden	Gross Weight	Value 1,000 gulden	Gross Weight	Value 1,000 gulden	Gross Weight	Value 1,000 gulden	Gross Weight	Value 1,000 gulden	Gross Weight	Value 1,000 gulden
Africa (Belgian Congo)	..	..	..	..	..	..	..	..	..	..	..	..
" (British East)	..	..	..	..	..	..	..	..	..	..	..	..
" (British West)	..	..	..	..	..	..	..	..	..	..	..	..
" (French Equatorial)	..	..	..	..	..	..	..	..	..	..	..	..
" (Liberia)	..	..	..	..	..	..	..	..	..	..	..	..
" (Portuguese South)	..	..	..	..	..	..	..	..	..	..	..	..
" (Union of)	..	..	..	..	..	..	..	..	..	..	..	..
Arabia	..	..	..	..	..	..	..	..	..	..	..	..
Argentina	..	..	..	..	..	..	..	..	..	..	..	..
Australia	..	..	..	..	..	..	..	..	..	..	..	..
Belgium and Luxembourg	8	10	..	..	..	..	..	..	..	..	..	..
Canada	..	..	..	..	..	..	..	..	..	..	..	..
Ceylon	..	..	..	..	..	..	..	..	..	..	..	..
China	..	..	..	..	..	..	..	..	..	..	..	..
Czechoslovakia	30	84	..	..	..	..	..	..	..	..	..	..
Denmark	63	30	..	..	..	..	..	..	..	..	..	..
Germany	828	887	..	..	..	..	..	..	..	..	..	..
Great Britain	111	140	..	..	..	..	..	..	..	..	..	..
Greece	..	..	..	..	..	..	..	..	..	..	..	..
Iceland	..	..	..	..	..	..	..	..	..	..	..	..
India (British)	17	22	..	..	..	..	..	..	..	..	..	..
India (Dutch East)	..	..	..	..	..	..	..	..	..	..	..	..
Indies (Dutch East, Surinam)	..	..	..	..	..	..	..	..	..	..	..	..
Irish Free State	..	..	..	..	..	..	..	..	..	..	..	..
Lithuania and Memel	..	..	..	..	..	..	..	..	..	..	..	..
Madagascar	..	..	..	..	..	..	..	..	..	..	..	..
Malay States	..	..	..	..	..	..	..	..	..	..	..	..
New Zealand	..	..	..	..	..	..	..	..	..	..	..	..
Norway	55	40	..	..	..	..	..	..	..	..	..	..
Palestine and Cyprus	..	..	..	..	..	..	..	..	..	..	..	..
Paraguay	..	..	..	..	..	..	..	..	..	..	..	..
Peru	..	..	..	..	..	..	..	..	..	..	..	..
Roumania	..	..	..	..	..	..	..	..	..	..	..	..
Siam	..	..	..	..	..	..	..	..	..	..	..	..
Sweden	..	..	..	..	..	..	..	..	..	..	..	..
Switzerland	13	18	..	..	..	..	..	..	..	..	..	..
Syria	..	..	..	..	..	..	..	..	..	..	..	..
Turkey	..	..	..	..	..	..	..	..	..	..	..	..
U.S.A.	..	..	..	..	..	..	..	..	..	..	..	..
Total	1,121	1,196	5,020	7,748	877	1,272	639	1,628	1,440	2,028	8,906	14,772

JAPAN.

QUANTITIES AND VALUE OF COTTON

DYED, PRINTED, AND

To	Total since Jan., 1904	Total since Jan., 1903	Comparison	Total since Jan., 1904	Total since Jan., 1903	Comparison
Manchuria ..	106,945,520 27,410,618	56,177,554 15,100,149	- 50,237,972 12,310,464	46,016,085 9,544,978	24,800,204 5,392,550	- 17,116,777 4,152,123
Kwantung ..	41,065,174 11,220,351	41,402,456 10,825,025	- 562,038 504,820	31,460,343 8,065,900	24,110,257 6,295,510	- 3,349,044 220,601
Shanghai ..	5,635,910 1,760,952	22,604,033 5,873,197	- 16,968,123 4,112,145	5,435,246 1,242,943	4,339,337 650,184	- 1,095,909 593,759
Tientsin ..	7,145,812 1,911,374	15,952,435 4,031,041	- 8,806,623 2,119,667	1,533,132 208,186	2,031,006 420,817	- 408,864 122,631
Tsingtao ..	10,530,635 2,570,692	30,668,217 7,690,767	- 20,137,582 5,111,105	435,374 60,434	1,220,293 230,768	- 784,919 146,334
Hankow ..	1,477,779 419,846	4,539,799 1,157,564	- 3,062,020 713,738	6,551 3,602	44 14	- 6,507 3,607
Other China ..	115,322 34,630	226,190 65,636	- 112,677 31,006	20,241 6,433	53,404 11,462	- 33,223 4,970
Hongkong ..	18,644,122 4,223,856	16,311,336 3,495,550	- 2,372,786 728,306	5,368,660 1,624,253	6,046,416 1,252,316	- 1,422,244 371,067
British India ..	136,156,567 31,091,920	149,337,274 28,645,791	- 6,810,313 2,371,120	221,245,226 30,737,887	104,877,085 25,446,636	- 26,368,141 4,451,251
The Straits Settlement ..	50,974,652 12,382,117	64,202,714 12,790,202	- 4,318,062 417,175	10,343,807 1,642,441	7,445,945 1,223,631	- 2,357,922 418,810
Dutch India ..	264,050,650 33,308,125	230,710,306 46,152,417	- 34,340,353 7,155,708	78,000,341 11,282,206	50,440,724 8,589,471	- 18,559,617 2,712,735
French Indo China ..	477 105	217,739 50,154	- 217,262 50,049	92,500 14,350	649,085 68,638	- 556,585 54,468
Philippines ..	54,194,202 9,908,453	27,009,750 4,560,900	- 27,180,542 5,347,544	6,707,622 987,890	2,515,817 353,907	- 4,192,005 608,903
Siam ..	31,554,265 6,240,968	21,345,473 3,846,082	- 10,208,915 2,394,386	6,587,174 913,167	4,408,367 645,367	- 2,398,767 267,780
Aden ..	6,991,857 1,361,551	3,523,105 620,202	- 3,478,252 782,250	33,354,361 5,321,566	32,183,826 5,074,607	- 1,170,535 240,660
Arabia, Persia ..	8,692,502 15,099,785	35,447,966 7,494,620	- 46,244,836 10,605,166	20,960,180 5,089,148	18,235,302 3,078,027	- 11,724,738 1,061,110
Balkan States ..	5,517,446 1,240,253	10,516,332 2,105,040	- 4,998,884 524,787	1,501,420 231,283	2,012,606 262,292	- 511,156 51,020
South America ..	94,073,586 20,716,467	30,303,073 6,076,548	- 63,770,511 14,639,919	44,267,767 1,136,810	18,316,547 3,264,286	- 25,951,240 4,872,522
Egypt ..	132,677,645 30,549,000	105,297,016 21,711,636	- 27,380,629 8,837,364	62,343,724 9,645,903	72,680,566 11,326,520	- 10,345,860 1,682,523
Other Africa ..	90,953,961 20,570,439	93,463,568 17,968,024	- 6,409,213 2,601,515	96,749,054 15,533,391	72,414,478 11,776,749	- 23,934,578 3,756,642
Australia ..	31,907,494 7,201,292	24,393,156 5,127,514	- 7,514,338 2,073,478	34,544,237 6,146,124	26,825,771 4,353,542	- 7,718,466 1,702,282
Others ..	78,368,542 16,552,345	31,398,539 6,208,690	- 46,972,003 10,343,646	47,477,860 8,067,044	19,451,845 3,201,044	- 28,026,015 4,966,000
Total ..	1,292,177,299 279,154,204	1,014,961,325 211,624,420	- 277,225,974 87,522,775	766,750,939 122,530,183	610,302,031 93,345,530	- 156,457,106 29,184,653

Note.—Upper figure indicates sq. yds., and lower indicates yen.

PIECE GOODS EXPORTED, 1933 and 1934

YARN DYED, GREY

To	Total since Jan., 1934	Total since Jan., 1933	Comparison	Total since Jan., 1934	Total since Jan., 1933	Comparison
Manchuria ..	11,117,303	6,084,230	+ 5,033,064	164,075,914	91,701,091	+ 72,377,823
	1,920,115	1,070,334	+ 849,781	38,875,701	21,563,323	+ 17,312,368
Kwantung ..	9,785,376	9,745,581	+ 39,795	83,210,893	85,907,354	- 2,747,461
	1,697,930	1,671,445	+ 26,485	10,093,106	18,791,983	- 301,213
Shanghai ..	9,169,035	12,335,547	- 3,165,512	20,240,500	39,279,667	- 19,039,367
	1,636,099	2,130,105	- 544,006	4,640,094	8,708,486	- 4,068,392
Tientsin ..	10,310,706	8,427,047	+ 1,883,659	18,969,652	26,411,481	- 7,421,829
	1,736,661	1,419,772	+ 316,889	3,946,221	5,471,630	- 1,525,409
Tsingtao ..	4,799,967	7,901,063	- 3,101,096	16,065,370	39,789,573	- 23,724,197
	840,395	1,443,016	- 602,621	3,513,491	9,379,553	- 5,866,062
Hankow ..	2,175,146	2,218,646	- 43,500	3,661,476	7,058,484	- 3,397,018
	400,651	375,231	+ 25,420	818,189	1,532,224	- 714,040
Other China ..	173,606	536,955	- 363,349	307,360	210,018	+ 99,342
	28,953	89,343	- 60,390	70,066	106,441	- 36,375
Hongkong ..	8,179,039	3,434,724	+ 2,744,315	35,231,821	28,092,470	+ 6,539,345
	1,294,651	926,726	+ 367,925	7,142,990	5,674,502	+ 1,468,488
British India ..	72,988,164	107,434,510	- 34,446,346	450,380,067	451,488,774	- 1,108,707
	12,183,427	16,809,225	- 4,715,798	73,941,234	71,434,652	+ 2,506,582
The Straits Settlement	20,383,736	23,065,235	- 3,681,499	90,702,275	95,743,844	- 5,041,569
	3,322,902	3,784,437	- 461,535	17,347,460	17,807,360	- 459,900
Dutch India ..	98,915,140	133,896,538	- 34,981,398	440,966,149	423,049,568	+ 17,916,581
	18,265,909	23,383,333	- 5,117,424	82,826,240	78,075,221	+ 4,751,019
French Indo China	—	86,266	- 86,266	92,977	933,900	- 840,923
	—	13,306	- 13,306	14,455	132,300	- 117,845
Philippine ..	14,849,135	5,390,741	+ 9,458,394	75,721,040	34,910,108	+ 40,810,932
	2,319,614	859,774	+ 1,459,840	13,195,957	5,779,670	+ 7,416,287
Siam ..	21,878,369	13,867,690	+ 8,010,679	60,319,931	39,706,550	+ 20,613,381
	3,630,855	2,271,555	+ 1,359,300	10,784,990	6,763,574	+ 4,021,416
Aden ..	4,539,511	3,316,341	+ 1,223,170	44,940,226	30,023,772	+ 14,916,454
	751,544	461,931	+ 289,613	7,434,600	6,106,120	+ 1,328,480
Arabia, Persia ..	28,847,505	13,490,275	+ 15,357,230	142,500,427	67,173,839	+ 75,326,588
	4,335,340	2,153,071	+ 2,182,269	27,974,271	12,725,727	+ 15,248,544
Balkan States ..	2,849,606	3,000,661	- 150,055	10,168,534	15,338,821	- 5,170,287
	527,346	545,001	- 17,655	2,038,664	2,932,423	- 893,759
South America ..	27,433,458	8,720,663	+ 18,712,795	165,824,831	37,349,305	+ 128,475,526
	4,967,123	1,532,527	+ 3,434,596	33,820,405	10,873,363	+ 22,947,042
Egypt ..	39,184,587	32,263,567	+ 6,921,020	234,185,990	210,250,171	+ 23,935,819
	6,739,582	5,295,101	+ 1,444,481	48,964,557	38,335,257	+ 10,629,300
Other Africa ..	75,784,721	46,815,606	+ 28,969,115	272,486,556	212,443,050	+ 60,043,506
	13,954,193	8,368,314	+ 5,585,879	50,358,023	38,113,687	+ 12,244,336
Australia ..	8,785,514	6,117,544	+ 2,667,970	75,237,245	37,336,471	+ 37,900,774
	1,652,247	1,057,345	+ 594,902	11,990,663	10,560,001	+ 1,430,662
Others ..	30,090,496	12,819,380	+ 17,271,116	182,888,898	63,667,744	+ 119,221,154
	6,069,451	2,176,166	+ 3,893,285	30,684,840	11,585,990	+ 19,108,850
Total ..	509,221,100	468,689,539	+ 40,531,561	2,568,168,338	2,085,632,815	+ 482,535,523
	88,825,181	78,027,152	+ 10,798,029	490,509,565	382,907,111	+ 107,602,454

TABLE of MONTHLY RETURNS of the JAPANESE COTTON SPINNERS' ASSOCIATION 1931, 1932, 1933 and 1934

(Compiled by the International Cotton Federation, Manchester.)

Month	Year	No. of Mills	Working Spindles			Yarn Produced			Average production per day per Spindle		Cotton Consumed	Number of Hands	
			Ring	Mule	Total	Ring	Mule	Total	King	Mule		Male	Female
January	1934	60	7,035,388	4,541	7,039,929	109,812,621	207,285	110,100,906	9.604	17.082	12,101,000	18,520	112,006
	1933	63	6,902,271	12,570	6,014,841	99,063,600	248,713	99,012,370	9.748	20.063	113,822,000	20,000	105,228
	1932	61	6,114,340	13,977	6,128,317	92,643,006	309,826	92,863,822	9.815	23.062	106,886,540	22,681	102,010
	1931	60	5,639,417	21,113	5,654,530	81,050,760	395,112	81,451,902	9.071	17.202	93,268,867	24,801	92,820
February	1934	60	7,012,810	4,508	7,017,298	110,664,064	324,608	110,888,672	9.616	17.082	125,013,150	18,581	113,468
	1933	63	6,690,387	12,570	6,612,957	100,198,643	262,471	100,461,014	9.580	19.005	113,814,549	10,882	106,227
	1932	61	6,130,154	12,907	6,152,061	94,201,613	304,477	94,505,990	9.989	23.052	107,443,201	21,828	101,000
	1931	60	5,626,591	20,313	5,619,904	81,089,166	411,663	81,500,819	9.201	17.080	92,871,006	21,710	92,866
March	1934	59	7,088,503	4,530	7,093,042	107,536,602	317,788	107,854,210	9.676	17.082	125,270,487	18,553	110,070
	1933	63	6,918,590	12,568	6,926,996	99,687,751	245,039	99,122,790	9.628	22.172	113,217,753	19,745	108,281
	1932	61	6,165,209	14,116	6,179,325	88,898,985	307,338	89,063,492	9.017	23.805	106,810,891	21,574	101,014
	1931	60	5,638,385	21,064	5,659,399	78,748,245	380,373	79,106,618	9.074	15.964	90,419,143	24,003	93,613
April	1934	59	7,137,343	4,561	7,141,904	114,800,619	345,715	114,653,331	9.736	40.188	120,388,270	18,432	120,170
	1933	63	6,648,199	12,570	6,660,769	103,976,183	302,973	104,278,166	9.688	23.100	117,888,704	19,682	110,682
	1932	61	6,202,368	13,700	6,216,068	98,750,766	306,396	97,057,082	9.898	23.100	109,086,119	21,833	108,987
	1931	60	5,744,307	20,508	5,764,883	83,180,162	442,683	83,622,745	8.917	18.943	95,022,508	23,811	93,086
May	1934	59	7,248,615	4,535	7,253,060	112,929,801	336,332	113,266,133	9.917	41.205	127,821,065	18,455	123,028
	1933	63	6,660,662	12,559	6,682,221	101,687,828	285,363	101,978,191	9.628	25.064	116,532,007	19,529	112,416
	1932	61	6,214,995	16,094	6,231,089	93,676,491	250,732	93,827,193	9.881	30.681	110,818,881	21,270	107,613
	1931	60	5,786,279	20,123	5,806,402	84,660,676	406,909	85,066,485	8.748	18.605	104,588,316	23,795	97,181

COTTON TRADE STATISTICS

415

Year	Month	Day	1931		1932		1933		1934		1935		1936		1937		1938		1939		1940		1941		1942		1943		1944		1945		1946		1947		1948		1949		1950		1951		1952		1953		1954		1955		1956		1957		1958		1959		1960		1961		1962		1963		1964		1965		1966		1967		1968		1969		1970		1971		1972		1973		1974		1975		1976		1977		1978		1979		1980		1981		1982		1983		1984		1985		1986		1987		1988		1989		1990		1991		1992		1993		1994		1995		1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019		2020		2021		2022		2023		2024		2025		2026		2027		2028		2029		2030		2031		2032		2033		2034		2035		2036		2037		2038		2039		2040		2041		2042		2043		2044		2045		2046		2047		2048		2049		2050		2051		2052		2053		2054		2055		2056		2057		2058		2059		2060		2061		2062		2063		2064		2065		2066		2067		2068		2069		2070		2071		2072		2073		2074		2075		2076		2077		2078		2079		2080		2081		2082		2083		2084		2085		2086		2087		2088		2089		2090		2091		2092		2093		2094		2095		2096		2097		2098		2099		2100		2101		2102		2103		2104		2105		2106		2107		2108		2109		2110		2111		2112		2113		2114		2115		2116		2117		2118		2119		2120		2121		2122		2123		2124		2125		2126		2127		2128		2129		2130		2131		2132		2133		2134		2135		2136		2137		2138		2139		2140		2141		2142		2143		2144		2145		2146		2147		2148		2149		2150		2151		2152		2153		2154		2155		2156		2157		2158		2159		2160		2161		2162		2163		2164		2165		2166		2167		2168		2169		2170		2171		2172		2173		2174		2175		2176		2177		2178		2179		2180		2181		2182		2183		2184		2185		2186		2187		2188		2189		2190		2191		2192		2193		2194		2195		2196		2197		2198		2199		2200		2201		2202		2203		2204		2205		2206		2207		2208		2209		2210		2211		2212		2213		2214		2215		2216		2217		2218		2219		2220		2221		2222		2223		2224		2225		2226		2227		2228		2229		2230		2231		2232		2233		2234		2235		2236		2237		2238		2239		2240		2241		2242		2243		2244		2245		2246		2247		2248		2249		2250		2251		2252		2253		2254		2255		2256		2257		2258		2259		2260		2261		2262		2263		2264		2265		2266		2267		2268		2269		2270		2271		2272		2273		2274		2275		2276		2277		2278		2279		2280		2281		2282		2283		2284		2285		2286		2287		2288		2289		2290		2291		2292		2293		2294		2295		2296		2297		2298		2299		2300		2301		2302		2303		2304		2305		2306		2307		2308		2309		2310		2311		2312		2313		2314		2315		2316		2317		2318		2319		2320		2321		2322		2323		2324		2325		2326		2327		2328		2329		2330		2331		2332		2333		2334		2335		2336		2337		2338		2339		2340		2341		2342		2343		2344		2345		2346		2347		2348		2349		2350		2351		2352		2353		2354		2355		2356		2357		2358		2359		2360		2361		2362		2363		2364		2365		2366		2367		2368		2369		2370		2371		2372		2373		2374		2375		2376		2377		2378		2379		2380		2381		2382		2383		2384		2385		2386		2387		2388		2389		2390		2391		2392		2393		2394		2395		2396		2397		2398		2399		2400		2401		2402		2403		2404		2405		2406		2407		2408		2409		2410		2411		2412		2413		2414		2415		2416		2417		2418		2419		2420		2421		2422		2423		2424		2425		2426		2427		2428		2429		2430		2431		2432		2433		2434		2435		2436		2437		2438		2439		2440		2441		2442		2443		2444		2445		2446		2447		2448		2449		2450		2451		2452		2453		2454		2455		2456		2457		2458		2459		2460		2461		2462		2463		2464		2465		2466		2467		2468		2469		2470		2471		2472		2473		2474		2475		2476		2477		2478		2479		2480		2481		2482		2483		2484		2485		2486		2487		2488		2489		2490		2491		2492		2493		2494		2495		2496		2497		2498		2499		2500		2501		2502		2503		2504		2505		2506		2507		2508		2509		2510		2511		2512		2513		2514		2515		2516		2517		2518		2519		2520		2521		2522		2523		2524		2525		2526		2527		2528		2529		2530		2531		2532		2533		2534		2535		2536		2537		2538		2539		2540		2541		2542		2543		2544		2545		2546		2547		2548		2549		2550		2551		2552		2553		2554		2555		2556		2557		2558		2559		2560		2561		2562		2563		2564		2565		2566		2567		2568		2569		2570		2571		2572		2573		2574		2575		2576		2577		2578		2579		2580		2581		2582		2583		2584		2585		2586		2587		2588		2589		2590		2591		2592		2593		2594		2595		2596		2597		2598		2599		2600		2601		2602		2603		2604		2605		2606		2607		2608		2609		2610		2611		2612		2613		2614		2615		2616		2617		2618		2619		2620		2621		2622		2623		2624		2625		2626		2627		2628		2629		2630		2631		2632		2633		2634		2635		2636		2637		2638		2639		2640		2641		2642		2643		2644		2645		2646		2647		2648		2649		2650		2651		2652		2653		2654		2655		2656		2657		2658		2659		2660		2661		2662		2663		2664		2665		2666		2667		2668		2669		2670		2671		2672		2673		2674		2675		2676		2677		2678		2679		2680		2681		2682		2683		2684		2685		2686		2687		2688		2689		2690		2691		2692		2693		2694		2695		2696		2697		2698		2699		2700		2701		2702		2703		2704		2705		2706		2707		2708		2709		2710		2711		2712		2713		2714		2715		2716		2717		2718		2719		2720		2721		2722		2723		2724		2725		2726		2727		2728		2729		2730		2731		2732		2733		2734		2735		2736		2737		2738		2739		2740		2741		2742		2743		2744		2745		2746		2747		2748		2749		2750		2751		2752		2753		2754		2755		2756		2757		2758		2759		2760		2761	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JAPAN.

PRODUCTION OF TEXTILES, 1932-1934

Year or month	Cotton yarns		Cotton	Muslin C.I.D.	Cotton textile C.I D.	
	Spinners'	Ass'n	piece-g'ds Spinners'		Broad	Narrower
	bale	sq. yds.	1,000		width	width
1932	2,810,437	1,533,648	—	2,818,301,228	122,223,299	
1933	3,099,857	1,659,171	112,503,147	3,282,343,155	116,422,684	
1933, Dec. ..	280,912	144,480	8,354,498	280,315,568	9,667,732	
1934, Jan. ..	270,986	138,791	6,342,170	273,308,084	8,732,690	
" Feb. ..	273,845	143,505	6,606,342	254,957,176	7,499,155	
" Mar. ..	266,872	142,995	6,859,028	277,563,354	9,889,240	
" April ..	283,001	152,583	7,629,366	301,885,909	10,176,392	
" May ..	280,452	148,762	8,090,200	313,824,108	10,910,104	
" June ..	286,026	151,184	8,589,749	316,667,721	10,390,806	
" July ..	282,541	147,977	8,552,482	308,410,944	8,656,364	
" Aug. ..	290,212	150,549	8,644,110	317,569,037	8,803,087	
" Sept. ..	287,563	148,501	8,185,939	321,472,910	8,292,945	
" Oct. ..	308,171	150,415	8,806,676	333,990,624	8,940,689	
" Nov. ..	322,402	158,905	9,102,087	333,445,100	8,523,952	
" Dec. ..	320,200	159,679	—	—	—	
Jan. to { 1934	3,152,073	1,634,167	87,408,149	3,354,253,371	100,815,403	
Nov. { 1933	2,818,945	1,529,399	104,148,649	3,001,827,587	106,754,952	

Year or Month	Rayon textile C.I.D.		Silk-cotton mixed textiles	
	Broad width	Narrower width	Broad width	Narrower width
	metre	piece	metre	piece
1932	185,345,873	3,489,635	3,668,674	1,578,350
1933	188,425,934	5,608,545	3,421,022	1,478,906
1933, Dec. ..	14,929,212	504,005	284,479	68,880
1934, Jan. ..	14,226,174	364,772	320,108	44,763
" Feb. ..	11,189,312	397,211	348,067	50,587
" March ..	17,061,723	556,748	331,049	89,584
" April ..	18,207,094	822,939	353,731	79,333
" May ..	19,044,725	908,406	322,664	99,191
" June ..	20,839,728	756,375	289,479	59,496
" July ..	22,612,434	539,035	275,360	48,791
" Aug. ..	21,474,575	689,559	314,126	80,944
" Sept. ..	20,771,677	618,670	303,620	82,161
" Oct. ..	23,722,656	693,238	344,583	91,094
" Nov. ..	23,393,094	693,757	338,552	65,111
" Dec. ..	—	—	—	—
Jan. to { 1934	212,528,243	7,035,710	3,541,329	791,055
Nov. { 1933	178,496,722	5,104,540	3,136,543	1,410,026

C.I.D. = Commerce and Industry Department.

MISCELLANEOUS

ENGLISH FEDERATION'S NEW PRESIDENT.

Mr. W. M. Wiggins has been elected president of the Federation of Master Cotton Spinners' Associations to succeed Mr. W. H. Catterall, who now becomes a vice-president with Mr. H. S. Butterworth. The following were elected members of the Executive Committee: Mr. G. A. Barnes, of Bolton (chairman of the Accident Committee), Mr. F. Holroyd, of Yorkshire (chairman of the Finance Committee), Mr. F. Mills, of Oldham (chairman of the Parliamentary Committee), Sir Richard Jackson, Messrs. T. Dutton (Bolton), A. Eastwood (Oldham), and J. Waller (Rechdale).

Mr. Wiggins is governing director of Messrs. T. B. Wood & Son, Middleton, chairman of the Cromer Ring Mill, Carr Hill Mills, and Messrs. Parker, Lord & Co., while he is also on the Boards of the Albany Spinning Co., and Messrs. Benjamin Lees & Co.

The Committee of the Oldham Master Cotton Spinners' Association, at their last monthly meeting re-elected Mr. Fred Mills as president, and Messrs. T. E. Gartside and H. S. Butterworth as vice-president. Mr. Mills has held the position of president continuously since March 1, 1923.

BRITISH INDUSTRIES FAIR.

The British Industries Fair of 1935, which has been held on a record scale, has proved, if the economic conditions prevailing in the world are taken into consideration, one of the most successful by far of the Fairs held since the first British Industries Fair in 1915. The attendance of buyers has broken all records. At the White City, where the textiles and furnishing sections were accommodated, it may be said so far as the textiles section is concerned, that the general feeling among exhibitors is one of satisfaction. Many have done better than last year, and it is probable that the number of new accounts opened during the period of the Fair has been larger than was the case at the Fair of 1934. The volume of business transacted and the number of inquiries received by exhibitors in the Textiles Section of the Fair last year was a record since the inception of this section in 1931, and it is reported that the results achieved this year have certainly equalled those of last year.

TEXTILE-CELLOPHANE AND "FLIRO" YARNS.

Cellophane is now well known throughout the world. It is employed chiefly as a wrapping for foodstuffs, textiles, books, gifts, drugs and medicaments, etc. "Textile Cellophane," comprising strips of Cellophane up to 0.6 mm. wide, is also finding a wide application as a fashionable effect material in dress fabrics, hat braids, ribbons, trimmings, belts, cords, knit goods, etc. The fineness of this modern textile product is indicated by the fact that it is prepared in thicknesses of 0.02 to 0.04 mm., and that one kilog. of the finest type contains about 40,000 metres.

In addition it has been found possible to produce from Cellophane an interesting and novel material, viz., Fliro fibre, which, in conjunction with wool, cotton and the like, can be spun into a variety of novel yarns. Fliro fibre possesses sharp edges with fine teeth, discernible under the microscope, resulting in a peculiar refraction of light. On account of this special structure, Fliro fibre combines intimately with other fibres during spinning, so that the final product, Fliro yarn, exhibits a wire-hair effect, fast to wear and also not removed by brushing. As proof of the fineness of Fliro fibre one may quote the manufacturers' statement that up to half a million fibres are cut out of a square metre of Cellophane weighing 30 grams.

A BLEACHING CHARGE REDUCTION IN ENGLAND.

The Bleaching Trade Advisory Board are making an attempt in encouraging bulk orders and mass production by quoting a very low price for bleaching and finishing white shirting, 15 lbs. to 22 lbs., 37 ins. wide, 80 yds. long. The prices, graded down for larger quantities are: 250 pieces, 18/40d. per yd.; 375 pieces, 17/40d.; 500 pieces, 16/40d.; 750 pieces, 15/40d.; 1,000 pieces, 14/40. The cloth is a bleached shirting subject to keen Japanese competition.

A NEW COTTON FUTURES CONTRACT.

The Liverpool Cotton Association has adopted in principle a new futures contract called No. 1, which will be based on the principal "outside" growths of the raw material, such as Brazilian, Peruvian, Argentine, and African. The Association has at present futures contracts for American, Egyptian (Sakel and Uppers), Indian, and Empire. A further new contract has become advisable owing to the increased use of "outside" growths. The actual terms of the contract remain to be settled and will present difficulties, and it will be some time before the new contract is in actual use.

BRITISH PAPER-TUBE MAKERS' MERGER.

An important merger in the textile tube-making industry is announced.

All the leading companies in Great Britain engaged in the manufacture of paper tubes and similar products for the textile industry have formed a new holding company under the title of British Paper Tubes (Holdings), Ltd., for the purpose of carrying out an immediate amalgamation and acquiring the undertakings of paper-tube firms joining the new merger. Details concerning the amalgamation were settled at a meeting held in Manchester recently.

The main object in the formation of the new merger is to have the assets of this important branch of the textile industry in one holding company.

Unlike the amalgamation in the textile machinery industry, the present merger in the tube-making industry is not intended, we understand, as a means of raising prices at home, since internal price-cutting is not a feature in this industry.

BOMBAY MILL OWNERS' NEW CHAIRMAN.

The Mill Owners' Association, Bombay, have elected for the current year as Chairman, Sir Joseph Aspden Kay, the Managing Director of W. H. Brady & Co., Ltd., prominent machinery importers and managing agents of several cotton mills in Bombay and other stock companies.

JAPANESE COTTON MISSION FOR SIAM.

The Japan Cotton Spinners' Association is to send a mission to Siam with a view to studying the position of cotton cloth consumption there and the advisability of planting raw cotton on a large scale. The time of departure is still undecided, but the choice of personnel is already progressing. Since the mission will be accompanied by officials of the Foreign Office and experts in cotton-growing, it is more than a mere trade commission. Importance is being attached to its ultimate effect on trade between the two countries.

NEW AMERICAN TEXTILE DESIGNS.

The Cotton Textile Institute of New York have recently issued an interesting book of cuttings of cotton fabrics of attractive weave and design.

This collection is an annual publication, and is collected by a panel composed of designers, artists, fashion experts, etc., who choose what in their opinion are the best sixty designs of all the

cotton cloths submitted by members of the Cotton Textile Institute. For the purposes of cotton propaganda, this publication is sent to every cotton cloth retailer in the United States.

Many novelty weaves are shown in the selection. Seersucker crinkles are particularly well represented. Piqué weaves are popular. Sheer weaves in both crisp and soft finishes are much to the fore. So are, at the other end of the scale, crash weaves in nubbed and tweed effects.

Among colour-woven materials there are large numbers of gingham in plaid designs, various novelty effects, and seersucker crimps. Many printed cottons are shown, with Regency colours much to the fore.

A number of very charming corded sheer weaves deserve special mention. So do some novelty sports materials, such as corded designs, waffle-weaves, rough multi-coloured coatings, and all-cotton homespun types.

NATIONAL COTTON WEEK IN U.S.A.

The Cotton Textile Institute of New York announced recently that the National Cotton Week in U.S.A. would be scheduled to take place from May 6 to May 11 this year.

All sections of the United States and the leading merchants of those sections are represented among the more than 30,000 stores which will participate in the 1935 National Cotton Week, with special merchandising campaigns and promotional programmes emphasizing the myriad uses for cotton in the wardrobe and throughout the home.

Since it was first observed five years ago, National Cotton Week has achieved an important place in the retail trade calendar, being generally accepted as marking the formal opening of the summer season. Evidence of the importance which now attaches to Cotton Week is found in unusually active interest on the part of wholesalers, who in greatly increased numbers have advised the Institute of their intentions to participate and to arrange for the participation of the many thousands of small retailers they serve.

AIR MAIL COTTON SAMPLES.

We wish to draw the attention of Lancashire cotton spinners and manufacturers to the advantages which are again being offered during 1935 by the K.L.M. Royal Dutch Air Line Service, operating from May 1 between Liverpool, Hull, Amsterdam and the more important centres in Europe, and vice versa.

This service affords excellent connections between the above-mentioned cities and towns for both passenger and goods traffic. It is of interest to note that it will be possible for the business man to leave either Liverpool or Hull any week-day for Amsterdam and return the same day. It appears that an important advantage is obtained by means of this service by cotton spinners and manu-

facturers for the forwarding of cotton yarn or cloth samples to textile centres on the Continent. If these samples are handed to any of the K.L.M. Offices: 14, Victoria Buildings, Manchester; Cunard Building, Liverpool; the London & North Eastern Railway Co., Enquiry Office, Paragon Station Hull, during the afternoon, they will arrive at their destination on the afternoon or evening of the following day.

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10-20	dep. Liverpool	..	.	Arr. 20-10
11-30	„ Hull	..		„ 18-50
13-45	arr. Amsterdam	..		Dep. 17-00
15-35	arr. Rotterdam	..	.	Dep. 16-20
15-05	„ Frankfort	.	..	„ 14-10
18-05	„ Nürnberg	.		
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16-15	„ Stuttgart			„ 10-00
17-15	„ Zurich			„ 9-00
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17-45	„ Milan	..		„ 11-30
15-55	„ Brussels			„ 15-30
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Obituary.

DIREKTOR A. W. SCHÜTTE.

WE regret to announce the death of Direktor A. W. Schütte, of Krefelder Baumwoll-Spinnerei, Krefeld. Dir. Schütte, who was 72 years of age, died on March 18, following a prolonged illness. He was member for Germany on the Joint Egyptian Cotton Committee when the latter body was first formed in 1928, but retired from active membership last year, owing to his illness. We extend our sincere sympathy to his family in their great sorrow.

Reviews on Current Cotton Literature.

"THE LANCASHIRE TEXTILE INDUSTRY," incorporating *Cotton Spinners' and Manufacturers' Directory for Lancashire*, printed and published by Messrs John Worrall Ltd., of Oldham. Price 15s. post free, 17s net abroad

The fifty-first issue of this valuable textile reference book is well in line with its predecessors as a guide to Lancashire's staple industry. Not only does it comprise a directory of cotton spinners, manufacturers and allied trades of Lancashire, but useful statistical tables, notes, formulas, etc., are also given, together with alphabetical lists of managers, secretaries, and salesmen of all the firms mentioned in the directory

BOOKS RECEIVED.

"ECONOMIC CONDITIONS IN THE REPUBLIC OF HONDURAS," October, 1934. Report by W. H. Gallienne, C.B.E., His Majesty's Consul, Tegucigalpa. Published for the Department of Overseas Trade by H.M. Stationery Office. Price 1s. 9d. net

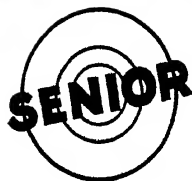
"ECONOMIC CONDITIONS IN THE PERSIAN GULF," October, 1934. Report by F. H. Gamble, Acting British Vice-Consul at Bushire. Published for the Department of Overseas Trade by H.M. Stationery Office. Price 1s. 3d net.

"ECONOMIC CONDITIONS IN CHILE," November, 1934. Report by Arthur J. Pack, O.B.E., Commercial Secretary, His Majesty's Embassy, Santiago. Published for the Department of Overseas Trade by H.M. Stationery Office. Price 2s 6d. net

"ECONOMIC CONDITIONS IN BULGARIA," October, 1934. Report by R. B. B. Tollington, Commercial Secretary, Sofia. Published for the Department of Overseas Trade by H.M. Stationery Office. Price 2s. 6d. net.

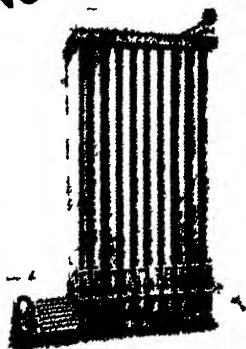
"ECONOMIC CONDITIONS IN PERU," August, 1934. Report by Darrell Wilson, Commercial Secretary, His Majesty's Legation, Lima. Published for the Department of Overseas Trade by H.M. Stationery Office. Price 2s. 6d. net

"CONDITIONS AND PROSPECTS OF UNITED KINGDOM TRADE IN INDIA," 1933-34. Report by Sir Thomas M. Ainscough, C.B.E., H.M. Senior Trade Commissioner in India and Ceylon. Published for the Department of Overseas Trade by H.M. Stationery Office. Price 4s. net.



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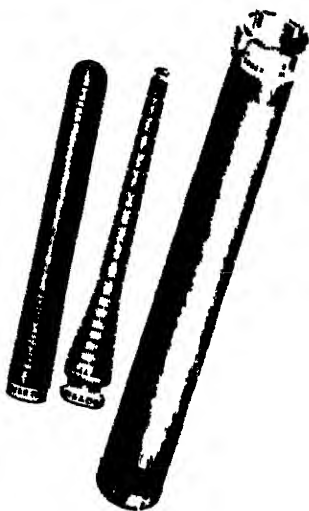
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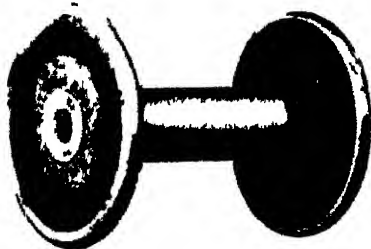
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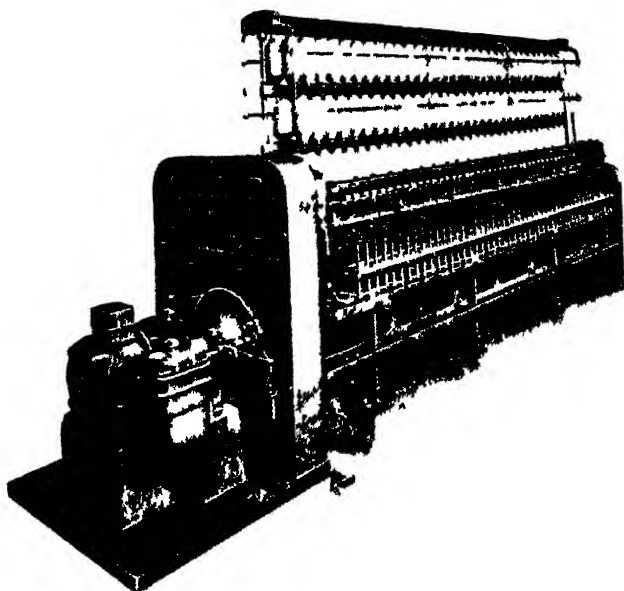
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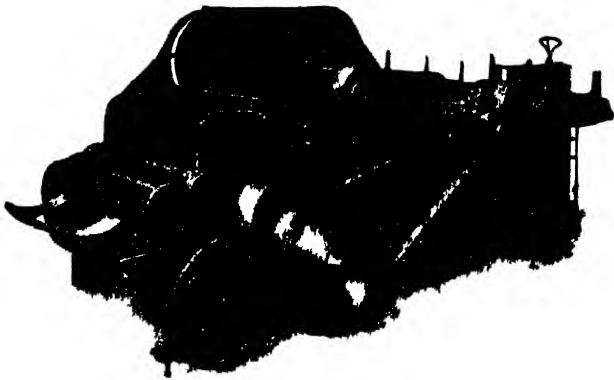
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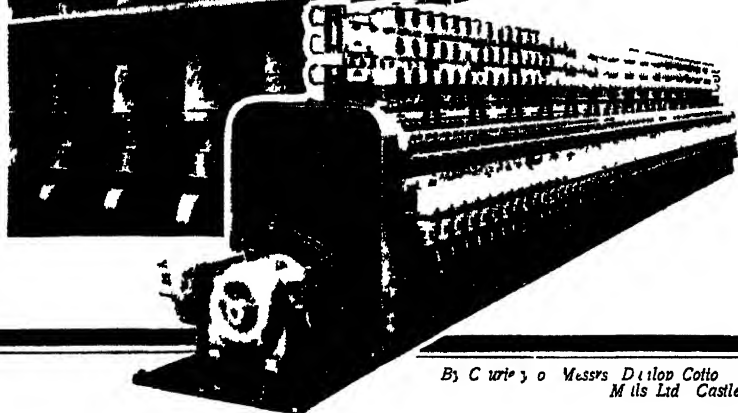
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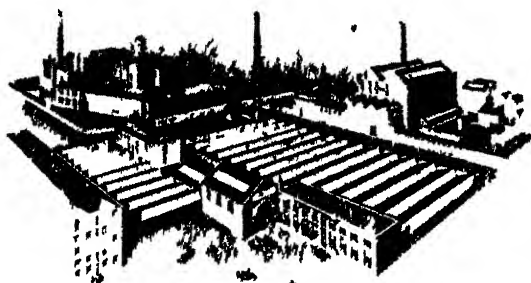
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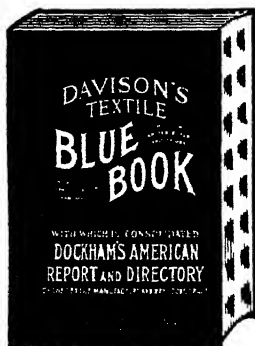
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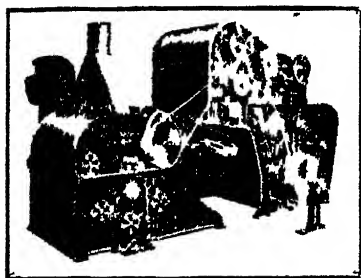
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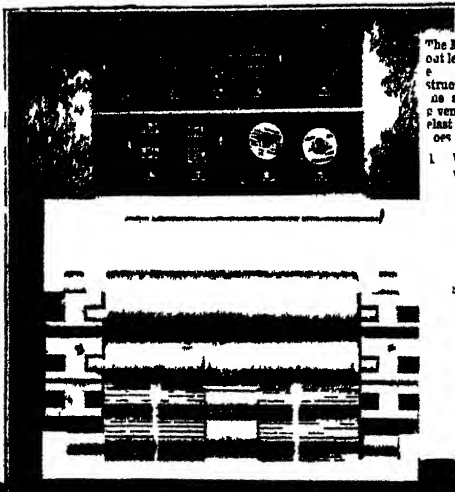
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July, 1935.

Published quarterly by the International Federation of Master Cotton Spinners' and Manufacturers' Associations, Manchester. Edited by N. S. Pearse, General Secretary, Manchester. The Committee of the International Federation of Master Cotton Spinners' and Manufacturers' Associations do not hold themselves responsible for the statements made or the opinions expressed by individuals in this Bulletin. Subscription £1 0 0 per annum.

THE opening pages of the present issue contain the

OFFICIAL REPORT

OF THE

XVII International Cotton Congress

HELD IN ROME

last May. As the shorthand notes had to be transcribed and submitted to the different speakers, a slight delay in the publication of this issue of the INTERNATIONAL COTTON BULLETIN has taken place.

The Congress "Papers" have been printed in this Report in English; a supply of some of the French and German translations is available on application to the Head Office.

REPORT OF THE PROCEEDINGS
OF THE
XVII International Cotton Congress

MILAN and ROME, April 29 to MAY 4, 1935.

INAUGURAL RECEPTION.

THE official opening of the Congress at Rome took place on Thursday morning May 2, in the conference room of the International Institute of Agriculture, in the beautiful Umberto Park.

The President of the Congress was On. Avv. Prof. Gino Olivetti, member of the Italian Parliament, and President of the Italian Master Cotton Spinners' Association.

The delegates and ladies assembled in the conference hall, and so large was the attendance that many people were obliged to stand in the gangways.

Occupying the seat of honour on the dais was His Excellency Medici del Vascello, the Under-Secretary of State to the Presidency of the Counsel, who attended as the personal representative of Signor Mussolini.

On the dais was also Mr. W. M. Wiggins, the President of the International Cotton Federation, and His Excellency Baron Acerbo, President of the International Institute of Agriculture.

Prof. OLIVETTI, in his inaugural address (in French) said:—

“Your Excellencies, Ladies and Gentlemen: I take great pleasure in my capacity as President of the 17th International Cotton Congress, in having the honour of extending a hearty welcome to the capital of Italy to the delegates of twenty-one nations and to the many charming ladies who have been good enough to accompany them. You are the highly distinguished and welcome guests of the Associazione Italiana Fascista degli Industriali Cotonieri; the Association has extended to you its warmest welcome, albeit a simple and unostentatious one, but nevertheless in a spirit of sincere and true friendship. It hopes to be able to conform to your desires in making it possible for you to visit as quickly as possible some of the most characteristic of the Italian towns.

“To-day we meet officially in Rome, the sacred city, where twenty centuries of history have accumulated many wonderful and glorious monuments. I hope that you will be able to verify that

the work of the Fascist regime is from all points of view as dignified as the traditions of Imperial Rome. This proof could perhaps best be made by those among you who knew Rome fifteen years ago. But I am certain that to those of you who have only visited this city for the first time, the grandeur and magnificence of the work already completed will be tangible proof of the genius of the leader who is at once the inspirer and the worker. You will more readily understand, therefore, the admiration and affection with which all Italians extend to Benito Mussolini, the Leader of Italy, the symbol of the rejuvenated Fatherland, and their devotion for the King who has confided the destiny of this country to him. I believe that you will be entirely unanimous in accepting my suggestion of sending an expression of our devotion to His Majesty the King and His Excellency the Chief of the Government, an expression of our homage and our thanks for the interest which he has shown in our Congress and our works—interest of which he has given us renewed testimony in sending his representative among us to-day in the person of His Excellency Medici del Vascello, Under-Secretary of State to the Presidency of the Council.

"I would also add that all the representatives of the Government have shown a marked proof of their interest in our Congress. It is a particularly pleasant duty to thank, in the name of the Committee of the Congress, His Excellency Benni, Minister of Communications, His Excellency Bottai, the Governor of Rome, and His Excellency Baron Acerbo, President of the International Institute of Agriculture, who has offered us such a warm welcome and sincere hospitality.

"The International Cotton Federation has shown the importance which is attached in the past to the Italian cotton industry, in accepting our invitation and in choosing Rome as the venue for the 17th International Cotton Congress.

"This industry has benefited very largely from the spirit of collaboration and mutual solidarity which is inspired by the conditions which exist between owners and employees in the Italian co-operative organization. Operatives and masters work in perfect accord and with a marvellous discipline with the welfare of mankind and the interest of the nation in view.

"You may be quite certain that the work of this Congress will be followed with attention and with immense interest by a very important section of Italian industrialists and operatives."

Speaking in English, the President continued: "Like the Congresses of Paris and Prague, this Congress takes place in a period of great difficulties.

"Almost every nation which possesses a cotton industry has experienced thorough disappointment in the fulfilment of the hope for improved business conditions expressed by the Chairman of the Congress held two years ago in the capital of Czecho-Slovakia. On the contrary, the position has grown worse—the world's cotton consumption from 1929 to 1934, as you all know, has shown a considerable decrease, although in certain countries consumption has increased.

"Tariffs, quotas and trade restrictions of every kind, together

with unstable currencies, have created obstacles which have seriously handicapped international trade—a handicap particularly felt by the cotton industry.

"We do not know, of course, the full details for the year 1934, but we do know that during the period from 1929 to 1933 England has lost about 45 per cent. of her cotton export trade, the United States of America 46 per cent., France 36 per cent., and Italy 49 per cent.

"Only Japan has increased her export of cotton goods by 147 per cent. in 1931, whereas for the first six months of 1934 her exports showed a further increase of 22 per cent. in comparison with the same period of 1933.

"This fortunate position is not, however, shared by European countries: instead, they look upon the situation with melancholy, while goods labelled 'made in Japan' are forcing their way into all the markets of the world."

Addressing the delegates in German, Prof. Olivetti said: "May we expect better days for international trade and the cotton industry? It is a very complicated question and a very difficult one to answer.

"The previous Congresses, especially those held in Paris and Prague, expressed the hope for less troublesome times than at present existing, but the conditions have, I am sorry to say, deceived us all: the desired co-operation of all countries to overcome the crisis did not materialize; in fact, on the contrary, the economic and financial isolation of certain States has become even more pronounced and widespread.

"The industries of each of these States have endeavoured to overcome all these difficulties, especially the cotton industry, because its future is necessarily bound up with international trade.

"I cannot say that for our own industry more than for others, the results of the industrialization of new countries is very noticeable. It is possible that in the near future a decided transformation in regard to the use and preparation of artificial fibres as against natural fibres will take place.

"You may therefore, under these circumstances, obtain a better idea of the value of the International Cotton Federation, which, during its long and successful existence, has always worked for the further use and development of our industry.

"We can therefore look forward with trust to the results of our work, and should do our best to obtain an exchange of ideas upon the difficult problems of the present day, in order to serve the interests of our countries and to bring about thereby that our industry and its workers should not forfeit any of the confidence and trust in the future which they have always jealously guarded, but that they may hold fast to these two attributes for all time."

Terminating his speech in Italian, the President of the Congress said: "I again cordially welcome the delegates and express the hope that the work will be undertaken in an atmosphere of sympathy, warmed by Italian hospitality, and that the proceedings will end with entirely satisfactory results to everybody."

Mr. W. M. WIGGINS then said: "Before presenting the report of the President upon the activities of the International Cotton Federation during the period which has elapsed since our last Congress at Prague in 1933, I wish to state how deeply the members of the International Cotton Committee appreciate the invitation of the Italian Cotton Association to hold the Seventeenth International Cotton Congress in this wonderful City of Rome. The name of no other city rings like that of Rome—it fascinates everyone's imagination. The remains of ancient Roman culture so excellently preserved will always be an attraction to peoples from all parts of the world. Not only was Rome the capital of the ancient Romans but it is the proud and foremost city of the new Italy.

"The delegates to this Congress are indeed highly sensible of the honour conferred upon them by the gesture of hospitality so generously offered by our Italian friends. As a token of our appreciation we need only look upon the large number of delegates and ladies who have taken this opportunity of visiting your city.

"Our own well-beloved Prince of Wales some time ago made the following statement:—

'The more I have travelled myself, the more convinced I have become that travel is essential to a better understanding between nations and to the realization that in the world to-day the welfare of one country is bound up with that of all the others.'

"I trust, ladies and gentlemen, that the same spirit will imbue us throughout our deliberations.

"Of course, the primary reason of our presence in Rome is to discuss matters of paramount importance to the world's cotton industry, and it may be that we shall in our leisure time view your famous antiquities and see the beauties of your city.

"The International Cotton Federation was formed in 1904—thirty-one years ago, and it is with deep regret that I must refer at this stage to the passing of one of the original members of that Committee—Comte Jean de Hemptinne. He was well-known to us and loved by all, and it is not necessary for me to dwell upon his capabilities and the excellences of his character and qualities. The members of the Committee will miss his far-sighted and shrewd advice in their councils, and the influence of his work will remain amongst them as a lasting memorial.

"Only quite recently have we lost another distinguished member, Dr. Giorgio Mylius, who should have been one of our hosts at this Congress. In fact, right up to the time of his death he was busy with the preparation of the Congress. Dr. Mylius joined the Committee in 1910, and was most assiduous in his attendance at all meetings.

"We also regret the death, last March, of Dr. A. W. Shütte, of Germany, who retired from the Joint Egyptian Cotton Committee on account of ill-health some time ago. And last week we learnt of the death of Mr. Roger Seyrig, who represented France on the International Cotton Committee and the Joint Egyptian Cotton Committee since 1924.

" Mr. President, ladies and gentlemen : I ask you to stand for a few moments in respectful silence in honour of their memories.

" There have also been a few resignations from our Committee. Our old and valued friend, Mr. Arthur Kuffler, who was one of the original members of the International Committee at its formation, retired last year. I am sure you will all join with me in wishing him a long life and all health and happiness in the years to come.

" Mr. Shimada, the representative for Japan, was recalled last year to take up an important post in his own country, and our best wishes go out to him also.

" Mr. Kuffler's place on the Committee has been filled by the appointment of Mr. Otto Anninger, whilst Mr. Ito has replaced Mr. Shimada, and Mr. Julian LeBlanc has been appointed in place of Mr. Seyrig. We give them all a hearty welcome.

" Since the very successful Congress in Prague and Carlsbad two years ago, I am pleased to state that Poland has joined the International Cotton Federation. There are now twenty-three countries affiliated with this organization out of a total of forty-nine engaged in cotton-spinning and manufacturing.

" Since that time the International Cotton Committee has met at Mulhouse, London and Berlin, and I may say we also met last Monday at Milan, and Mr. Schlumberger, who has held the office of President for the last two years, retired in accordance with the Statutes of the Federation. I am sure I am only voicing the opinion of the members of the Committee when I state that Mr. Schlumberger has held office during very troublesome times for the world's cotton industry, and he has presided over the deliberations of the Committee with great patience, consideration, and with his habitual courtesy."

Referring to the paper of Mr. Otto Bankwitz, " Depression in the Cotton Industry and Means to Overcome Same," which was considered by the Prague Congress, Mr. Wiggins said: " At Mulhouse the Committee investigated the various affiliated organizations' views upon the proposals made by Mr. Bankwitz in his paper submitted to the last Congress, and in order to bring these proposals to fruition we have collected and circulated the terms of the cotton yarn price or production agreements existing in the various countries.

" We hope that the distribution of these schemes has been, or will be the means of causing other countries to evolve similar schemes for themselves. At the moment there are conventions or similar schemes in force or in course of preparation in Austria, Czecho-Slovakia, England, France, Germany, Italy, Japan, Spain, Poland, Holland and Belgium, and we hope that others will follow their example. If we can induce each nation to obtain unity in this way nationally, there is much more hope of obtaining international action in the matter, with a view to stopping the wholesale slaughter of prices which has been carried out so indiscriminately during the last few years.

" Why should spinners and manufacturers all over the world, in every country, continue to throw away their capital, when a slight

increase of a half-penny per lb. of yarn and one-sixteenth of a penny per yard of cloth would make all the difference between profit and loss? The cost of the finished goods would be no more expensive to the consuming public than they are at present. Twopence, threepence, or even sixpence will not stop a housewife from buying a cotton dress or cause a man to postpone buying a new shirt. No one can deny that we have a perfect right to make a profit on our undertakings."

Mr. Wiggins then referred to the question of Japanese competition, and said: "The question of Japanese competition was exhaustively discussed both in Mulhouse and London. At our meeting in Mulhouse we had the pleasure of the presence of the leader of the Japanese cotton textile delegation to England, Mr. Okada. With this difficult question, I am afraid we did not make much progress. Conditions in Europe are entirely different from those existing in Japan, and it is natural that Japan's cost of production should be less than that obtaining in Europe, and that she will always be a keen competitor. However, we should have preferred to come to some amicable arrangement with that country, for I do not believe that the problem can be solved by the simple method of applying tariffs and quotas, for Japan's machinery is bound to find an outlet for its production somewhere in the world, consequently competition is merely transferred from one market to another.

"The General Secretary made one of his periodical visits to the various cotton markets in the United States and the Cotton Belt in 1933. His visit was short, but he covered a great deal of ground during the journey. I understand that he travelled over 3,000 miles in the U.S.A. alone. After his return he gave several lectures on the various new movements in that country to certain affiliated Associations. His report was also circulated in the official organ, THE INTERNATIONAL COTTON BULLETIN."

On the question of false packing of American cotton, Mr. Wiggins said: "At the last Congress we adopted a resolution calling upon the Government of the United States to institute some system whereby the ginners of falsely packed bales could be identified, and I am pleased to be in a position to tell you that the United States Department of Agriculture have sent to this Congress two bales with special identification markers contained in the bales. The identification is plainly visible on the outside of the bale, and cannot be extracted from it without it being broken up. We hope to have an opportunity later of breaking these bales open and examining this suggested marking system.

"The International Federation has been collecting information from its various members for some time, stressing the point that no material progress has been made towards the elimination of this evil, despite repeated protests from spinners, and calling upon the United States Government Departments responsible to take steps to eradicate this pernicious practice of false packing, without delay. In addition to protesting, I think it is our duty to make some constructive proposals as to how to eradicate this evil.

"The subject of moisture in American cotton has been under discussion upon more than one occasion. The Head Office of the

International Federation has tabulated a large number of tests taken in many of the affiliated countries. Our experiments so far show that the cotton bought on spot terms in Europe is damper than when shipped c.i.f. direct from the States. We are continuing our collection and tabulation of tests, and hope to obtain and distribute information of value to all concerned.

"A protest was sent to the Indian Central Cotton Committee in respect to the prevalence of oil stains contained in Indian cotton. The presence of oil-stained cotton, as you know, causes the spinner and manufacturer considerable difficulty and the Indian Central Cotton Committee replied that it could take no action unless we quoted the registered number of the pressing establishment. This number used to be stamped into the hoops of the bale. It appears, however, that a short time ago the law compelling owners of presses to mark the hoops with their registered number was repealed, and that it is now only necessary to stencil the number of the press on the hessian cover. It is obvious that this mark will often become removed during sampling, and a resolution has since been forwarded to the Indian Central Cotton Committee asking that body to reinstate the law whereby the owner of the press should stamp the registered number on the bands of the bale.

"The Joint Egyptian Cotton Committee has been very active during the last two years and has done very useful work indeed, but I should prefer His Excellency Emine Yehia Pasha to give you some account of that body's work later on in the proceedings.

"The state of trade in the cotton industry during the past two years has been far from satisfactory, to our deep regret. The world consumption of cotton, it is true, has increased by almost three million bales since 1932, according to our International Cotton Statistics, but the narrow limits in which this increase has occurred, i.e., the Asiatic Continent, have scarcely, I venture to think, made the increase redound to the good of all. Even in the Far East short time is being worked at the moment, both in Japan and China, and the migration of the Indian trade from Bombay northward to Ahmedabad has been the cause of no small concern to the industry in the former city.

"In all these straitened circumstances, therefore, both industrially and politically, is it too much to hope for better times in the near future? A truth to be emphasized to-day is that the world is an economic unit, complete and indivisible. Must there not come a time when all nations will realize that attempts at isolation and self-sufficiency are vain, serving only to accentuate their present difficulties and to prejudice the ultimate welfare of their peoples? One cannot but endorse in the main the statement uttered recently by the Hon. Rupert E. Beckett, Chairman of the Westminster Bank, London, when he presided at the annual meeting of that body. He said:—

'To my mind, no development of recent years is more to be regretted than that of economic nationalism or self-sufficiency, whose logical end would appear to be a world-wide series of closed citadels, with the passage of goods from one

to another almost entirely prohibited. The pursuit of such a policy means retrogression, not progress. But the pursuit goes on. There is no sign of any relaxation of the strangling grip of trade restrictions in all their varying forms—tariffs, quotas, import licences, and the like. On the contrary, newer forms are being introduced. Recent international agreements aimed at fostering particular trades, while no doubt these are favourable to the countries and industries immediately concerned, have the effect of canalizing trade within new and unaccustomed channels. Barter agreements have much the same result, and, incidentally, help still further to reduce the volume of commercial bills of exchange. Added to all these disabilities there is the all-important one of exchange restrictions, which abound in so many parts of the world, and of which there appears no hope of early easement. These formidable obstacles continue to exercise a stranglehold upon export trade. The two outstanding needs of the present time are the establishment of an international monetary standard promising some stability, and a removal of the artificial barriers by which trade is at present obstructed. The two problems are interdependent, and which of them should claim first attention it is indeed hard to say. Of this I am sure. Tariffs and the like are flexible, and are susceptible of downward revision, as has been evidenced in some of the trade agreements reached.'

"May I conclude, therefore, with the hope that our Congress should, during the next three days, strive conscientiously to add its mite towards the restoration of the world as a whole to a saner level of thought. May we demonstrate to the world at large that the cotton industry at least, is capable of submerging its petty differences in the wider outlook of international understanding, and so prepare the way for better times for all."

His Excellency MEDICI DEL VASCELLO, the Under-Secretary of State to the Presidency of the Council, said: "In the name of His Majesty the King and by the command of the Duce, I have the honour to inaugurate this notable Congress and to present to its members the Fascist Government's address of welcome.

"You have, upon this occasion, judiciously chosen Rome as your venue, no doubt on account of its undisputed characteristic of universality.

"And together with this welcome, we extend to you our wish that the fruitful and lasting decisions will be taken by you in this very important economic field to which you are directing your attention and your studies, and to which your decisions will be applied.

"Our welcome is specially directed to the ladies, who have not been afraid of the austerity of this Congress, and they have brought among us a suggestive note of special kindness.

"Certainly their presence reminds us that spinning and weaving has belonged to the ladies' kingdom from the most ancient times, for an august Queen of Hellas was able to make of this art

the shield for her chastity and the flag of her purity as a wife and mother.

"The Fascist atmosphere is undoubtedly the most suitable for understanding the great importance of your works.

"Indeed, if your Congress has mainly an economical aspect, the subjects on its agenda also have a bearing upon international policy.

"Besides, the direct acquaintance and the mutual comprehension of the high personages partaking in the Congress will facilitate the agreements and will make of each one of you a warm advocate of that spirit of concord and of harmonious collaboration that, as is more and more admitted to-day, forms the fundamental postulate of a sound and far-seeing policy of production and trade, since fairness remains always the best business policy.

"To-day a Congress convened for strictly economical matters cannot turn a deaf ear to the people's expressed desire for a suitable atmosphere of peace strongly protected and assured. That is the essential condition for rehabilitating production and useful work, profitable to all: to the present generation and to their sons who will write the history of to-morrow.

"This is the essence of Fascist economic policy: to assure to the people, as far as is possible, the best material and spiritual prosperity, by collaborative principle instead of selfish competition. Fascism, therefore, affirms the necessity of those international agreements that you are formulating for your industry, in order to eliminate or at least reduce those inequalities of production that are the consequent substratum of economical struggle and which have become more pronounced and which are in the end the cause of tension and conflict.

"Although your views are directly aimed at economic solutions, your deliberations will cover a wide political range.

"The cotton industry is a world industry as regards production, manufacture and transport. Consequently it exercises great influence over international economics, especially as regards trade and shipping. Therefore, this industry represents a complicated and polyhedral question of vast range; whence the several sessions meet to create common rules; meetings that have taken place since 1904.

"The question obviously has different aspects for the various countries. But it has some fundamental points in common. You have a large basis to converge your studies for the necessary adjustment of the several individual requirements.

"Useful information might arise from a clear and objective examination about the measures to be applied in the several countries for the control of production; the obstacles by which international commerce is hindered; the means to remove them; the cotton world's situation; the influence of the money market upon commodity prices; the conditions and the liabilities of contracts and the opportunity to discuss the question of their standardization; improving the quality of cotton; the technical improvements in machinery.

"As you see, I have pointed out some of the many and difficult problems facing the cotton industry that your Congress will discuss.

"The Fascist Government will follow your work with its liveliest interest in order to derive from it useful suggestions to be applied to its economic and corporative policy, because each question concerning work, that is to say wealth and power, is a question closely studied by Fascism.

"Ladies and gentlemen, Fascist Italy lives in the full fervour of its work, because from work and peace the new Italy awaits, according to the Duce's will, its economic restoration."

"During the visits that you have already made and will make through several regions of Italy, you will ascertain first hand the huge efforts Italy is making in every branch of agriculture and of industry, notwithstanding the want of raw materials, also by fertilizing uncultivated grounds in order to give work and bread to its people.

"With the most absolute assurance that your work will be very attentively followed by the whole of our country, I beg you to begin your work under the valued leadership of your esteemed President, the Hon. Olivetti.

"Our best wishes follow you throughout all your undertakings." (Loud applause.)



FIRST SESSION OF THE CONGRESS

THURSDAY, MAY 2, 1935, 2.30 p.m.

Chairman: ON. AVV. PROF. GINO OLIVETTI.

In opening the First Session of the Congress, Prof. Olivetti, the President of the Congress, said he hoped the work of the Rome Congress would be as successful as any of the previous ones. He stated that the affairs of the International Cotton Federation had always been conducted with diligence, and referred especially to the work it had performed in creating and fostering good understanding between producer and consumer as far as the cotton trade was concerned. He mentioned the valued services rendered to the International Cotton Federation by M. Paul Schlumberger, of France, the previous President, and by Mr. Arno S. Pearse, the Expert Adviser. He hoped that they would always continue to give their support in the future as they had done in the past.

The CHAIRMAN then called upon Mr. John Taylor, of England, the Solicitor to the International Federation, to present the report of a special Sub-Committee on its examination of the various Yarn Conventions and Price Agreement schemes.

Mr. TAYLOR said that this matter came before the International Committee about October last, when the various affiliated countries submitted drafts or copies of schemes which were being considered or which were actually in operation in the different countries.

The Committee appointed M. de la Beaumelle, Rechtsanwalt Amfaldern, Dr. Henggeler and himself (Mr. Taylor) as a Sub-Committee for the purpose of studying the schemes submitted and formulating an international scheme, for submission to the Congress at Rome.

The Sub-Committee considered the matter carefully, but came to the unanimous conclusion that it was useless to draft an International Yarn Convention.

In theory an International Yarn Convention was excellent, but the Sub-Committee were of opinion it would be exceedingly difficult, if not impossible, to bring into force. The conditions varied so much in each country affiliated to the International Federation, and especially in one country as compared with another. In actual practice, therefore, an International Yarn Convention could not be worked. It would perhaps be possible to introduce conventions into a small country where there were only a few large firms, but it was exceedingly difficult in a country where there were a large number of small firms, or where the trade was divided into various sections. If England could be taken as an illustration, the trade was divided into many sections and sub-

sections, and a convention applicable to one section or sub-section must of necessity vary very much from that of another. The Sub-Committee therefore came unanimously to the conclusion that they could not draft a Model Form of International Convention for the affiliated countries in the International Cotton Federation, and were of opinion that the only useful purpose they could perform was to epitomize the papers submitted, and recommend the various countries to proceed with their individual schemes as far as possible.

Ten schemes had been submitted to the International Committee from different countries, but one of these had definitely broken down. Some were out of date, whilst others were not working satisfactorily.

Two of the schemes in existence were under Government control, and members in those two countries were bound to join them. As to one scheme, there was a Board of Management appointed by the Government from the spinners in that particular country. In the other, there was a Committee consisting of banks, spinners, and Chambers of Commerce, and a representative of the Government attended the Committee meetings and took part in the discussions.

The schemes in the remaining eight countries were voluntary, and divided into two classes. One class dealt with curtailment of production, and the other with price restriction, although in one or two countries the schemes covered both curtailment of production and price restriction. In the main, the schemes were for the curtailment of production. In some cases the production of all yarn was curtailed, but in others American yarn only was affected. There did not seem to be any curtailment of production so far as specialities were concerned.

Most of the schemes were worked with a Committee or Executive Committee, who fixed the curtailment of hours, the quantity of yarn which could be sold, or the minimum prices. In several schemes fines and penalties were imposed for breaches of the agreement. The penalty in certain cases was so much for each spindle working over the hours stipulated, and there was a double penalty for a second offence. In two cases there was security deposited as a guarantee of good faith.

In several of the ten schemes a spinner could not increase his spindle capacity without putting an equal number of spindles out of commission, and one scheme controlled home production only. In several of the schemes disputes were referred to arbitration. So far as he could see in the ten schemes submitted, those which dealt with the limitation of production, i.e., with the reduction of working hours, had not been very successful.

Delegates would notice that there had not been any scheme submitted by England. The reason was that many agreements embodying schemes had been drafted, but there was actually only one in force, for the coarse American yarn section. There were several others which were being considered, for fine American yarns, ring yarns, and Egyptian-type yarns. As a matter of fact, all the schemes which had been drafted were price restriction schemes, and dealt with the matter either by way of minimum prices based on the cost of production or minimum prices based on marginal rates.

In each case the minimum prices were low ones, and the schemes were worked either by a Committee or an Executive Committee.

Every agreement drafted in England provided against breach of its provisions by members. The Executive Committee could act on their own initiative if they had reason to suspect a breach of the agreement, or any member could complain of another member selling below the minimum price, or otherwise failing to comply with the agreed terms. The matter was investigated, and the Executive Committee decided whether the agreement had or had not been broken, and, if it had been broken, the Executive Committee fixed the amount of damages the defaulting spinner should pay. An appeal could be made to the General Committee or to a Board of Arbitration.

Mr. Taylor concluded his report by stating that under present circumstances it was impossible to formulate any kind of International Yarn Convention which would either be accepted or be of service, and the only practicable method was one of price restriction. It rested with each country individually to draw up its own national scheme, and see how this worked before an International Scheme was proceeded with. The affiliated associations should study the schemes submitted with a view to formulating or improving, as the case might be, schemes to be put into operation in their own countries. And at the same time the trade should consider the formulation of a standard yarn contract.

There was no discussion on the subject, and no resolution was submitted.

SILVER IN RELATION TO MONETARY POLICY AND THE COTTON TRADE OF THE WORLD.

Mr. W. M. WIGGINS, the President of the English Federation of Master Cotton Spinners' Associations Ltd., and Chairman of the English Federation's Silver and Monetary Committee, said: "In introducing this paper, I desire first to remind you of a resolution which was passed at the Cotton Congress in Paris, four years ago. We then agreed that each country affiliated with the International Cotton Federation should explore, in conjunction with its own Government, every avenue with the object of establishing a monetary system which would be of the greatest assistance to productive industry.

"Following up this recommendation, the English Federation has devoted much time, energy and money to research into monetary questions. Our papers presented at Paris and Prague dealt with monetary problems in general. To-day we offer, for your consideration, the results of our inquiry into the monetary problem, with special reference to silver.

"As is usual in our conferences, I take our actual paper as read; and I will not trouble you now with more than a brief reference to salient points.

"The fall in the gold-price of silver, which reached bottom at an average of 12.4 gold-pence in the year 1933, had two outstanding effects. The first was the loss to holders of silver, in

reduced value and purchasing power of silver savings and reserves. This affected at least half of the world's population. The second was the decline in the wholesale price level of primary commodities, due to monetary deflation in general, with silver demonetization and the falling price of silver as powerful contributory causes. This affected the earnings and purchasing power of primary producers throughout the whole world (with those of China excepted) or about three-quarters of the world's population.

"The debased value of silver savings has undoubtedly caused serious and unmerited suffering among silver holders with corresponding loss to the cotton industries of the world. More serious and undeserved, however, have been the sufferings among primary producers, and much greater the loss to the cotton trade through the fall in wholesale commodity prices.

"One of our resolutions passed at Prague in the year 1933, you will recollect, stressed particularly our unanimous conviction that a substantial rise in commodity prices was of paramount and urgent necessity. You will, I believe, agree with me that we have all had reason to regret that very little or nothing has since been done, except in Japan, to give this necessary relief to trade.

"In the opinion of the English Federation, this substantial rise in wholesale commodity prices is still of paramount and urgent necessity; for it is the fall in the wholesale price level that has reduced the earnings of our customers. If they, and particularly the agricultural communities of the tropics, do not recover their lost purchasing power, most of the cotton industries of the world must obviously remain in a depressed or semi-bankrupt condition.

"In my opinion, no one is fully qualified to speak of, or even to understand, the problems of manufacturing industries who has no real knowledge of the plight of the world's rural populations.

"With regard to this aspect of our common problems, I would ask your careful study of a table under the heading 'Purchasing Power in India,' which you will find among the papers distributed this morning. This explains, in the simplest way known to me, the changed condition of India's peasant farmers since the year 1929. As you will see, the money remaining to the average peasant family, after paying Government dues in the year 1934, was less than one-sixth the amount left to them in the year 1929.

"India's consumption of cotton goods in the year 1934 was actually less by 200,000,000 yards than in the year 1914. Compare this with what India would have consumed in the year 1934, assuming normal population increase and progress in productivity since 1914. I calculate, on this basis, that India should have been able to consume 3,000,000,000 yards more than was actually purchased.

"I have singled out India as only one of many possible examples. If you will take comparable statistics for rural populations in most parts of the world, you will find in the main that they give similar results. Monetary deflation, which is primarily the cause of lost purchasing power, is the key to the problems of the cotton industry.

"With regard to world demand for cotton goods, the actual

amount of cotton consumed in the year 1934 was 25,000,000 bales. This is an improvement on the year 1931, but is far short of what the world would consume if the agricultural communities enjoyed reasonable prosperity. If cotton consumption had increased since the war at anything like the pre-war rate, 30,000,000 bales would now barely meet requirements.

"Anticipating the needful rise in commodity prices, I would remark in passing that though times are depressed, we should not relax our efforts to promote expansion in cotton-growing. We must not lay ourselves open in the future to the charge that, for lack of foresight now in this respect, we ourselves became responsible for checks to expansion for the world's cotton trade.

"I have already pointed out that Japan is in an exceptional position, and I would say that this is almost entirely due to the exceptional enlightenment shown by her monetary authorities. Japan's Finance Minister, Mr. Takahashi, who, I understand, enjoys the confidence and has the wholehearted support of all parties in Japan, described her monetary policy at the reopening of the Diet on January 29, 1935, in the following words:—

'Since 1932, the Government has effected pertinent reforms with a view to overcoming economic depression and restoring business prosperity.'

"Seeing is believing. There is no mystery in what Japan has done, and the benefits of her policy are there for all to see. The increased circulation of her currency, the rise in her index number of commodity prices, the growth in her people's savings, her expanded production of goods, her 80 per cent. increase in imports as well as exports, over the last three years, the increase in the volume of her railway and shipping freights, and her rising index of employment show a remarkable recovery in commerce and industry.

"Are we not reasonable, I would ask, in requesting all Governments to effect the same pertinent reforms in their monetary systems?"

"It is most encouraging to note that business organizations are now at work in most countries with the object of readjusting monetary systems to the needs of industry and commerce. I venture to believe also that all members of our International Federation are agreed, after experiences of the last four years, upon at least one thing, namely, that monetary policy exerts a dominant influence upon trade. May I, however, remind you that monetary depressions have figured prominently in the world's history from the earliest times? In this connection I would quote just two paragraphs out of a remarkable book, entitled 'Prices,' by G. F. Warren and F. A. Pearson. The former is the Professor of Agricultural Economics, and the latter the Professor of Prices and Statistics at Cornell University in the U.S.A. After their vivid relation of monetary events and effects, since the year 1780 down to the present day, they conclude:—

'This century and a half of chaotic history of prices, which meant prosperity or ruined the lifetime opportunities of innumerable individuals, was not due to acts of Providence. It

was due to lack of knowledge of economic principles, or failure to apply the little knowledge that there was. The common assumption at any given date has always been that the conditions were world-wide and inevitable, either as a punishment for present sins or because of some benign force working for our good. The price history of no two countries is alike. In each country the price history is a result of legislative acts and accidental discoveries of or failure to discover the particular metal which legislative acts designate as money.

'If such price chaos is to be avoided in the future, the scientific principles that govern prices must be discovered, made common knowledge, and applied. The world's monetary history is as chaotic as was its medical practice before bacteria were known—and for the same reason—lack of knowledge.'

"In order that there shall be no misunderstanding of our position on this vital issue, and speaking for the English Federation, I would emphasize, once and for all, that we do not aim to stir up opposition to Governments. Quite clearly, all Governments are convinced that something must be done to improve monetary policy; but most Governments are just as obviously uncertain as to the best procedure. In putting at the disposal of Governments the results of our own researches, we do so in the fervent hope and expectation that we may assist Governments to better the condition of their peoples and to remove the underlying economic causes of international friction. This, in short, is our contribution to the promotion of universal prosperity and world peace.

"In conclusion, I would stress the fact that the only alternative, if we neglect the monetary aspects of our problem, is to tackle the problem of sharing out a depression quantity of trade among the cotton industries of the nations. This I regard as a problem of insuperable difficulties.

"I would also urge that the old school of monetary theory and practice have proved unreliable and, therefore, that business men must think and investigate for themselves.

"Finally, it is with the utmost confidence and certainty that I forecast prospects of complete recovery for the world's cotton industry as and when the excessive deflationary measures of past years have been rectified. The wording of a resolution, which I intend to propose at the appropriate stage in our proceedings, is in your hands. It is the earnest hope of the English Federation that this resolution in substance will have your approval.

"I do ask you to believe that we are not doing this from any selfish motives at all, but with a serious desire to improve the conditions of the cotton industry in the whole world."

The resolution of the English Federation officially proposed by Mr. Wiggins, and seconded by Mr. T. Ashurst, the Secretary of the Cotton Spinners' and Manufacturers' Association, Great Britain, was as follows:—

"Whereas the fall in wholesale commodity prices, due to monetary deflation and silver demonetization, has increased the burdens of debts and taxation, and has severely curtailed

the purchasing power of primary producers throughout the world ; and whereas the major problems of the world's cotton industry must remain unsolved, if primary producers do not recover their lost purchasing power ;

“ This Congress respectfully urges upon all Governments the supreme necessity of an early and substantial recovery in the wholesale price level of primary commodities.

“ With this objective in view, this Congress, whilst again giving full support for all efforts to reduce tariffs and other trade restrictions, expresses their firm conviction that silver should be brought back, wherever possible, into the monetary systems of the several countries and Empires ; that all monetary measures which have resulted in deflation of wholesale commodity prices should be rectified ; and that all countries should make early and earnest endeavour to restore wholesale commodity prices to prosperity levels.”

Mr. R. BRASSEUR (Belgium) said : “ As a representative of one of the smallest countries in Europe, I hardly dare to take part in the debate instituted by the representatives of the British Empire. I only wish to call your attention to the paper prepared by a Belgian monetary expert, and which has been published under the name of the Belgian Association. I would like to remind you of what his conclusions are, as I am no expert myself. Silver is too easily produced. Production is not controlled, and the value fluctuates too much. Therefore, gentlemen, all I have to say is that, in our opinion, silver should not be used in the monetary system.”

At this stage Mr. Bankwitz was called to speak on his paper, but the General Secretary announced that Mr. Bankwitz could not be present at the discussion, as he had been called to an important meeting in Poland.

Mr. ROBERT P. PFLIEGER, Secretary of the Ghent Cotton Exchange, in introducing his paper, said that he had prepared a report for the Congress, and it concerned money matters in general. He really believed that the question was one of the utmost importance to all. He felt a little embarrassed because, having come at the invitation of the Belgian Spinners' Association, he should not very well differ from the opinion expressed by Mr. Brasseur. He stressed the point, therefore, that he was speaking purely in a personal capacity. “ I really believe,” continued Mr. Pflieger, “ that the report on the silver question as put forward by the English Federation should be taken into consideration by everyone here, and should be supported.”

He gave it as his opinion that all major fluctuations in the cost of living at the moment were attributable to the state of the money market and the price of gold rather than to the state of the commodities markets.

He referred to the extreme conservatism which had been exhibited by certain countries. “ They have not kept pace with the new monetary developments. If they had studied the considerable evolution which had taken place in monetary matters,

they would agree entirely with the conclusions put forward by the English Federation in its report."

Mr. YOSABURO ITO (Japan), representing the Japan Cotton Spinners' Association, said that in the absence of a report from Japan on the Silver Question, he ventured to submit his personal views, mainly as far as China was concerned.

"To discuss the effect of prices of silver upon Chinese trade, we must first consider features peculiar to that country," said Mr. Ito.

"China is a vast country, with unsatisfactory means of communication, and a relatively primitive economic system, and therefore repercussions of incidents of external conditions are not felt on the whole, except at trading centres such as Shanghai and others, as quickly and sharply as in other more highly organized countries. Generally recognized theories do not always apply to China, as her economic position is often governed more by her peculiarities, political or otherwise, than by international conditions. The main force of purchasing power in China springs from the agricultural people, who comprise nearly three-quarters of the population, who have only a scanty available surplus of income, and owing to frequent internal conflicts, floods, famines, etc., the vast majority of the people have recently been brought to a still more deplorable condition.

"Chinese currency is silver, and as it is not one of the products of her land she must procure the metal by the export of her products.

"Silver has become one of the international commodities and is often made the object of speculation, and if left to the natural trend of the market, its price reflects sensitively the general economic conditions of the world, and usually fluctuates parallel to the rise and fall of general commodities measured in terms of gold. This means, therefore, that Chinese currency acts in the reverse direction to gold, that is to say, when the price of general commodities is cheap in terms of gold, the price of silver is low, and when the price of silver is high, it should generally be at a time when international conditions are good. Chinese currency being silver, any fluctuations in the price of silver affect China more seriously as a fluctuation of currency than they do in countries on a gold basis, where it is merely a commodity fluctuation. They do not measure silver in China in relation to gold.

"When silver is cheap there is produced in China an inflation, and prices of commodities in China as measured by silver will rise; these prices, however, will still be lower than outside prices in terms of gold, and therefore it will benefit exports from China, as in the case of other countries with inflation, and the internal trade will tend to expand. Besides, inflation in the case of China is not a paper inflation, but a gradual metallic inflation brought about naturally, and not artificially. So the low price of silver will benefit China.

"When silver rises there will be no harm done provided international prices of general commodities rise simultaneously and to the same extent, but when the price of silver is higher, it naturally

hinders China's exports and increases her imports, thereby leading to an outflow of silver, which in turn causes deflation, a decline of commodity prices in China in terms of silver, and shrinkage of local industries and economic conditions.

"The rise in the price of silver naturally adds more value to silver stocks in China, but silver holders in China form only a very small proportion of the people, and have not much effect upon the general purchasing power. The majority of the population whose holding of silver is negligible, are living a hand-to-mouth existence, and in any case the Chinese people having a great attachment to the metal, would prefer to hoard it and only spend to such an extent as living necessitates.

"In the present world economic depression there will be a greatly reduced aggregate of remittances from Chinese emigrants, these remittances play a very important rôle in the form of invisible imports (practically no foreign loans coming into China), and the forcing up of the price of silver by political action may only result in leading China into chaotic condition."

Mr. PAUL SCHLUMBERGER (France) said that the fact that there were so many papers on the question of silver currency, showed that it was a question of some importance. But in spite of the interesting information contained in the reports, the conclusions lacked something. It was possible that the people who had submitted the reports wanted to raise questions which formed the nucleus for further discussion and were dealing with an effect rather than a cause. It would be very difficult to solve the silver question. As long as countries acted in such a manner as had the U.S.A., Great Britain and Japan, whom the speaker described as "money vagabonds," it would be impossible to assess the trade of the world upon a common basis. Our aim should be to promote the establishment of an international monetary agreement.

"Gold production had increased, but industry did not feel the benefit of this increased production, because it was hoarded by Governments and banks. In his opinion, a solution of the silver problem would avail little whilst the problem of gold remained in its present chaotic state."

Dr. ERNEST ZUCKER (Czecho-Slovakia) reminded the Congress that this question was considered at the last Congress in Prague. That the financial state of things has greatly deteriorated since ~~the~~ Prague Congress is illustrated by the fact that whereas at Prague there was a general agreement of opinion upon the necessity of asking for a stabilization between the ~~the~~ sterling and the dollar, no matter what the basis should be, whether \$4.50 or \$5.00 to the £, to-day we have not even the courage to ask for the stabilization of that equalization of the £, as all people are aware, the question of stabilization is insoluble as long as Great Britain is boasting of a balanced Budget, whereas U.S.A. is far remote from the latter, and the Congress is openly speaking of simply printing fresh banknotes as an emergency measure.

"I am sorry to see," continued Dr. Zucker, "that this assembly is suggestive of the Tower of Babel as far as the question of international currencies goes, everybody talking in a different language upon this question."

"Our English friends are in favour of a pure index currency. Mr. Pflieger, whose penmanship is so very interesting, is in favour of a managed gold currency. Our Belgian friends are again in favour of a pure and conservative gold currency, with the exclusion of silver. If they attribute their opposition to the assumption that silver cannot stand as a metal for currency because silver is extracted as a by-product out of other metals, such as copper, lead, etc., I hold that to be a fallacy. The very fact that silver can only be won as a by-product as long as the proportion of gold to silver is not better than 1 to 50 to gold is a protection against producing silver in silver mines (with few exceptions), and a protection against the reopening of old silver mines; that reopening would mean over-production of silver and the expulsion of gold through silver. (Gresham's Law.)

"The American Government last year determined the prime cost for silver to be 50 cents for an ounce, while the gold price amounts to \$35 an ounce, i.e., a proportion of 1 to 70 between gold and silver. At this rate there was no danger of silver being produced for its own sake.

"I believe our English friends are right in saying that the stipulation of a definite relation between gold and silver would be beneficent to the world's economy, and that the price relation fixed by the American Government some time ago, as quoted before to be 1 to 70, should be accepted by other countries, especially by England, whose economic policy besides that of American in this question will turn the scales.

"I should like to point out on this occasion that one should not attempt to influence profitableness of business by some subtle handling of currencies, that is to say, that changes in currencies should not be permitted to be abused as being favourable opportunities to promote business; in this way more is destroyed than can be gained. On the other hand, it would be an unpardonable folly to sacrifice all for the phantom of a stable currency. A currency should not only be stable, but also and chiefly a medium of exchange amongst the peoples of this planet.

"Changes in currencies ought to be effected if they were found to be imperative owing to the special conditions of a country, such as great internal debts, unbalanced budgets, etc.

"That is why it is so important to place questions of currencies to the front, as the cotton industry could not possibly thrive unless international currencies were sound, and as the most important question in this respect must be considered the proportion between the value of gold and silver, gold having been the only currency metal for comparatively few years only and conditions being such as not to be in a position to depend solely on gold as the currency metal. At the present moment the metallic basis of currency cannot be large enough to restore confidence.

"Mr. Ito portrays very effectively the consequences that the rise in the price of silver by the American Government has brought to bear upon the Asiatic silver countries in the present year.

"If the rate of silver is increased the produce of silver countries becomes very expensive. They are plunged into a crisis, as is the

case in China. The raising of the price of silver will result in symptoms of deflation. The real interests of countries basing their currencies on silver is an established ratio between silver and gold—viz., a stable silver rate.

"As already mentioned, the proportional value between silver and gold was fixed by the U.S.A. Government last year to be 1 to 70. This year, however, the same Government has ordained the prime cost of silver to be 70 cents an ounce, which in turn has led to a proportion of 1 to 50 between silver and gold, with a resulting crisis in silver countries, i.e., in countries having silver as a currency metal.

"Two points are authoritative in the relation between gold and silver:

- (1) Rates must be established at such a ratio as not to make it profitable to extract silver in new silver mines.
- (2) The price relation between gold and silver must not be set so high as to cause deflation in silver countries.

"The moment the British and U.S.A. Governments establish a permanent relation between gold and silver the question will be solved satisfactorily. With such a move we shall have taken an important step towards the stabilization of international currencies."

Mr. J. GELDERMAN (Holland) said the paper of the English Federation was a useful contribution to the work of the Congress, and it contained much valuable information. The other papers had also furnished plenty of food for thought. They would agree that the previous speakers, especially Mr. Ito and Mr. Schlumberger, had put forward interesting theories on the subject, but the only support to the English Federation's paper had been made by Mr. Pflieger, and he had not been very kind to the monetary ethics of pre-war days. Mr. Gelderman expressed the opinion that Mr. Pflieger had been somewhat carried away by his youth. Were we sure that the economic and monetary experiments which we had made during the post-war period had made us any better off than the pre-war generation?

The monetary question was a very difficult matter. He would like to ask the delegates if they had read the newspapers during the past few days. Owing to the hospitality of the Italian Association they probably had not had the time for reading, but if they had read the papers the previous night, and that morning, they would have seen that the price of silver had advanced not only in the last few days but during the past few hours, and was now at a much higher price than was mentioned in the paper of the English Federation. And what had happened? The advance in the price of silver during the past few days had brought about a prohibition of the export of silver from China. It had resulted in the abolition of silver currency in Mexico, and had given a new standard based on a paper and copper currency in that country. He had only read this information in the newspapers that morning. Mr. Gelderman said one must be very careful if such actions were to be the result of high-priced silver. They had seen from the discussions that the question was not so simple as had been put forward by their

English friends. He thought that they were here to discuss the affairs of the cotton industry, which were of more interest to them all. They would all welcome monetary reform which would bring prosperity to the great industry which they represented, but he thought it was too difficult for them to agree to the resolution that was being put forward.

There were many other points, however, on which they agreed. He thought they all agreed on the reduction of trade barriers and trade restrictions. They might one day agree on stabilization. But after the discussion that afternoon he did not think they would agree on the silver question. He expressed the opinion that it would be very difficult for the Committee to draft a resolution or to put it into words that would meet the requirements of all the delegates.

Dr. W. BURNS (India) said he was the Director of Agriculture of the Bombay Presidency, and he wished to address the Congress to give them some idea of the conditions in India, but he was at a great disadvantage in not having all his papers with him. This was because he was only on holiday in England, and had been instructed to attend the Congress by the Indian Central Cotton Committee. He wished to point out that he was concerned with the growing of cotton in the Bombay Presidency, and he did not consider himself an expert on economics. But he would like to make a few observations on the paper of the English Federation so far as it affected the purchasing power in India. That country had nearly 350,000,000 people living in a great diversity of conditions, and it was exceedingly difficult to generalize about such an enormous number of people. It was better to take small typical communities than to generalize on the whole of the population of India. They had heard an attempt to generalize over the whole of the country, but it appeared that the figures and statements had been based on one authority, that of Sir Montagu Webb, who was himself an advocate of bi-metallism. Many of the statements made regarding India had been too sweeping in character. In his opinion, the reference to the India question had been simplified too much. If anyone wanted to follow the matter up they should consult the original reports of the Imperial and Provincial Governments in India, or study the statistics and data contained in the admirable Institute of Agriculture in Rome.

Mr. J. WALSH (England) said that with regard to the speech of Dr. Burns, the figures used by the English Federation were obtained from the Statistical Abstracts of the Indian Government, and were put in the form presented so that they would be readily and easily understood.

"At the outset, may I remind the members of the Congress that the purpose of international trade is the mutual benefit to be gained by the exchange of goods and services," continued Mr. Walsh. "The simple truth appears to be almost forgotten in the world to-day. With regard to Mr. Pfieger's paper on 'The Depression and International Money Standards,' we are indebted to him, for it contains a clear and well-written account of the working of the pre-war gold standard system, which centred on London. I

would especially draw your attention, however, to his statement that a creditor country on the gold standard cannot at the same time be a protectionist country, under penalty of disrupting the whole economic system.

"We have now ample proof that a gold standard can only work with Free Trade, and I submit that unless the nations of the world are prepared to adopt a Free Trade system, then the adoption of a gold standard would inevitably lead to deeper and deeper depression. The central bankers of all the great trading nations have repeatedly urged the lowering of the tariff barriers; statesmen at International Conferences have repeatedly agreed that such a course should be pursued, but we know that no headway is made. That being the reality, we must face the reality that the adoption of an international gold standard is impossible.

"Gold as a money can only be successfully used—

- (1) If it is freely used as money and not hoarded.
- 2) If the total gold supply increases roughly at the same ratio as the increase in commodities.

"Otherwise you get a falling price level, which means losses to primary producers and increases the burden of debt, thereby perpetuating a state of slump and depression.

"To suggest, as is suggested in the paper by the Belgian Master Cotton Spinners' Association, that in reality goods and services between nations are only exchanged on the basis of their gold value, is to ignore the 'sterling group' and the 'silver countries.' The value of gold has never been stable over a long period, and since the European War of 1914 this has been specially noticeable.

"Silver has all the attributes of gold as a precious metal, and if Governments had a fixed value for silver, as they have for gold, then silver would remain stable in terms of national currencies. The English Federation's researches into the uses of silver as a money show conclusively that the abandonment of silver has had a deflationary effect, which has hurt not only those countries formerly using silver, but has reacted on all countries. We therefore advocate the restoration of silver as money wherever possible. At the same time we favour managed currencies, because, as I have mentioned, there appears to be no prospect of the adoption of Free Trade by the nations.

"Every country should therefore adopt its own money standard. This should be such that the internal price level is one that gives equilibrium between prices and costs of production generally. In order to avoid inflation, national budgets must be balanced. Then, if a country is tending to import more commodities and services than it exports, always of course allowing for invisible items, then its rate of exchange will fall, exports will be stimulated and imports restricted. With regard to Mr. Pfieger's proposals for a managed currency linked with gold, the difficulty is that even if such a policy could eventually be agreed upon and made to work, unfortunately it depends upon international co-operation. Can we see any prospect of action speedily enough?

Frankly, I say no! Just as we know that there is not the slightest prospect of the adoption in any immediate future of international Free Trade, so I suggest there is no prospect of immediate agreement amongst the nations for the working of a managed currency linked with gold. Meantime, the depression persists. From Mr. Pflieger's remarks of this afternoon, I conclude that he considers that each nation shall first of all follow out the policy advocated by the English Federation.

"The English Federation urges upon each and every Government individually to take the necessary action to bring about a rise in wholesale commodity prices, through monetary expansion to the prosperity level inside their own country, and then stabilize, and I do not see what there is in the English Federation's resolution to which we cannot agree."

Dr. HENDRIK VAN DELDEN (Germany), said: "The selling price of cotton, the buying power of their producers, and also the price of non-monetarized silver are purely economic problems which cannot be solved by altering the value of currencies.

"Economics is the primary, the monetarian problem is the secondary question. The monetarian problem is far-reaching, and is dependent upon the economic situation and not vice-versa.

"He who wishes to attain economic success by manipulating the currency will only have temporary success."

Mr. WENTWORTH SCHOFIELD (England), speaking on behalf of the Federation of Master Cotton Spinners of Great Britain, said that as Mr. Wiggins had pointed out, the resolution was not the outcome of a sudden impulse on the part of the English Federation. "It is the result of prolonged research on the part of our Association. We have had years and years of study before we came to this conclusion. In our opinion, there was never a time when it was more necessary that all economic theories and financial methods should be reviewed in the light of modern practical experience. So many rule-of-thumb methods have broken down and so many orthodox beliefs have failed in practice that it is incumbent upon everyone to examine the foundations upon which the various opinions and actions are based; and we submit that among the questions that now clamour for fresh judgments are the problems connected with the monetary systems of the world. Among those problems, the question of silver is of high importance and cannot be disregarded, because the savings of hundreds of millions of people in the world depend for their value and their ability to purchase the goods which all of you as producers of cotton goods have to sell.

"It is no use closing our eyes to facts. The truth must be recognized that one-half of the world are too poor to buy what the other half has to sell. Unfortunately for the cotton trade, it is that half of the world's population which is represented by the primary producers who, under normal circumstances, are the greatest consumers of cotton goods. Many of them during the most prosperous years of the cotton trade have been governed by a silver standard of values.

"Our Federation believes, therefore, that there can be no real revival of the world's cotton trade until those primary producers have had restored to them their lost purchasing power, and that such purchasing power can only be restored by reversing the various deflationary monetary measures which have brought about the fall in the price of the products which they produced, and that one way of doing this is bringing about a rise in the price of silver.

"That same view is also held by many of the world's leading economists, who are now of the opinion that there should be a reversal of the deflationary process that has had so adverse an effect upon the world trade in recent years, and that efforts should be made to create an expansion of credit in order that the increased purchasing power may raise the wholesale prices of commodities. Where such efforts as expansion of credit have been tried in the past, the great difficulty has always been of getting the credit into the pockets of the people. We submit that in the case of silver the problem is immensely easier because the basis of required credit and spending power is to a large extent already in the pockets of the hundreds of millions of people in the East, where the great majority of the people still place their trust in silver as a store of value. An increase in the value of silver would have a substantial effect upon the spending power of those people who have suffered mostly by the diminution of its value.

"Let us take India as an example. The fact that India has deserted the silver standard does not alter the fact that the savings of her people are still in the form of silver. Ancient habits and customs cannot be changed at a moment's notice merely because a Government decides to transform its conception of monetary value.

"From time immemorial the people of India have invested or placed their savings in the form of silver coins or ornaments. In consequence, they still think in terms of silver and judge values accordingly. By the reduction in the gold value of silver the accumulated savings of hundreds of millions of people in India have been disastrously reduced. In other words the effect of the fall in silver has been equivalent to a fall in the value of savings bank deposits in Western countries.

"If we try to imagine what would happen in our own countries if the savings of our poorer people were halved by Government decree, it is easy to understand the position and feelings of the people whose savings have been affected by the refusal of Western nations to have consideration for the silver currencies of the East.

"A paper has been put forward by the Belgian Master Cotton Spinners' Association. The arguments in that paper that the recent action of the United States Government to force up the price of silver is directed in the interests of silver producers of the U.S.A. cannot be accepted by the English Federation. We prefer to think that President Roosevelt is directing his policy because he and his Administration recognize that the restoration of Eastern purchasing power is the first essential step towards recovery. President Roosevelt recognizes that the salvation of the cotton-growing states of America lies in the restoration of Eastern purchasing power, because he recognizes that the problems of the cotton trade

are the same as the problems of the cotton-growing states, and that prosperity for the cotton farmers must run hand in hand with the prosperity of the cotton trade as a whole.

"With regard to a statement made in the paper of the Belgian Master Cotton Spinners' Association, on the question of silver being a by-product, the production of silver, as you will know, is 75 per cent. produced as a by-product. For over 100 years you will find that the production of silver has never exceeded the world's consumption of silver in any particular year. In the year 1929 the production of silver amounted to 262,000,000 ounces, the highest production on record, and yet even in that year consumption exceeded the production by 30,000,000 ounces. It is wrong to say that silver production is uncontrollable

"I note that one speaker has said that a rise in the price of silver would cause chaotic conditions in China. I realize that the question of China is different from that of India, but I would point out that China represents only 8 per cent of the world's cotton trade, and I feel we should be more concerned with the 92 per cent. of the world's trade. We have already recognized the problems of China, and we have suggested measures in the paper presented by the English Federation.

"In conclusion, I would like to say that we hope that before the resolution is put to you on Saturday, you will read more carefully and more fully the statements submitted by the English Federation."

Mr. WIGGINS then announced that Prof. Olivetti, the President of the Congress, desired to address the Congress on this subject.

Prof. OLIVETTI said he was not frightened by the complexity of the problem, but he considered that the problem had been too simplified that day. A change in the monetary system would not solve all the difficulties. It had been put forward that the stabilization of prices would be a very simple thing. He considered that each nation should establish equilibrium. What concerned the assurances of their trade? Those assurances were the result of stability of money. It was not possible to say that the money problems were the cause of the depression and that the monetary policy could be dealt with easily. The world was suffering from lack of faith in money. The English Federation was in favour of raising the price of silver, but he, as the representative of Italy, could not agree with the proposals put forward by Mr. Wiggins on behalf of the English Federation.

Mr. WIGGINS said he agreed that the matter was a very complex one. "But if we have raised a live interest in the question of monetary policy, then we of the English Federation feel very gratified. The British delegates between now and Saturday will consider whether we will submit the resolution before you or submit one in a modified form."

(This ended the First Session of Congress.)

SECOND SESSION OF THE CONGRESS.

FRIDAY, MAY 3. 9.15 a.m.

Previous to the commencement of the business it was announced by Prof. Olivetti that Signor Mussolini had stated he would receive the members of the Congress and their ladies later that afternoon. The statement was received with loud and continuous applause.

Then Prof. Olivetti handed over the chair to H.E. E M I N E Y E H I A P A S H A, who presided over the meeting.

His Excellency, in his opening address, said:—

“ May I have the honour of saying a few words on the activities of the Joint Egyptian Cotton Committee?

“ In the first place, I wish to render homage to the country whose hospitality we are enjoying, and also to its beloved Sovereign. I am very pleased to express here our great admiration and our profound respect for Signor Mussolini, the one who has presided over the destinies of Italy for the last thirteen years with intelligence, courage and self-sacrifice, and who has astonished the entire world. To have at the head of affairs of State, in a moment of crisis, such a leader, so powerful, gifted with foresight, devotion and dynamic and magnetic power, is a gift from God.

“ We experienced a very warm welcome yesterday from the municipality and city of Rome. Rome—the city which stands for so much in the history of mankind—Rome, the birthplace of modern civilization, and I take pleasure in drawing your attention to the fact that this city, together with Cairo, is the only city which can lay claim to three civilizations—the ancient civilization, medieval civilization, and the modern civilization. The ‘Duce’ is showing the world to-day the model of a new method of Government.

“ At the last Congress in Prague, His Excellency Ahmed Abdel Wahab Pasha expressed the hope that the World’s Economic Conference, which was then on the point of meeting in London, would arrive at some solution to the world’s crisis which would benefit all mankind. We all realize to-day that this Conference ended in “stalemate,” and the economic disorder, monetary difficulties, tariff barriers, quotas, etc., still continue to be obstacles to international recovery. On the other hand, the political uncertainty has created a position of general distrust, hardly likely to encourage the spirit of initiative. In certain countries the crisis has hardly shown any signs of improvement—in others important improvements have taken place, and on the whole it would be incorrect to deny that the general situation, in spite of this, does not afford us some encouragement to-day. Without entering into a pointed discussion upon the question of whether

one should criticize Government intervention in private affairs, I would like to say that our Government still remains faithful to its policy, explained by His Excellency Ahmed Abdel Wahab Pasha at the Paris Congress in 1931. The cultivation of cotton is unrestricted, the Government has liquidated all its stocks of cotton, and the only intervention at present consists, as in the past, of making seasonal advances to cultivators by means of the Agricultural Credit Bank. In reducing the sale price of our cotton by means of the reduction of handling charges and by means of mass production, we remain convinced that we are working upon the right lines. It should also be remembered, however, that the intervention of the Government in Washington in the American markets has had its serious repercussions in Egypt.

"I do not wish to enter here into a discussion on the details of the subjects upon the agenda for the Egyptian Section; I would merely mention that the Joint Egyptian Cotton Committee continues to undertake an excellent work as a medium of co-operation and liaison between spinners, merchants and producers. Intricate questions such as that of humidity, which for several years have been the cause of repeated complicated discussions, have, thanks to the intervention of the Joint Egyptian Cotton Committee, been brought to satisfactory solutions. I feel certain that all questions which are raised in the future will be solved in the same way.

"You are certainly familiar with the different varieties of cotton, and realize the respective values of those of certain origins. I feel sure that you will agree that to-day there is no other cotton offering the advantages of Egyptian cotton. Besides being perfectly baled and possessing regularity of fibre, etc., it is the only cotton in the world which is sold with a guarantee in respect of humidity, and for you spinners who must give a similar guarantee to your customers, such an advantage will be appreciated. Finally, with a view to studying the value of each variety, the Ministry of Agriculture in Egypt has installed an experimental spinning mill at Giza. A staff of botanists, chemists, entomologists, and other technicians of the highest standing, are working there under the able leadership of Dr. W. L. Balls, F.R.S., C.B.E., and I believe that we should be proud of the way in which scientific cultivation is being carried on in Egypt. We would ask the spinners to let us know their difficulties and their problems, and we shall always be happy in endeavouring to help them. In response to the spinners' wish, our Government has promulgated a law forbidding the mixing of varieties of cotton, and competent officials (which service costs the Egyptian Government £60,000 per year) watch over the handling of cotton in all its stages, from the field to its embarkation and each bale must be marked with the variety it contains.

"At the same time another new law is about to be brought into force, which has in view the control of the production of our new varieties of cotton. According to this law no new variety of cotton will be authorized to be placed upon the market before it has been the object of experiment, undertaken by the Ministry of Agriculture, for at least two years previously. In fact, a new variety

should possess characteristics and qualities superior to those which are already found in the existing varieties.

"I would merely add that the selection of the seed for sowing is still carried on in a most meticulous way, and, thanks to these sustained efforts, our cotton is maintaining and will maintain its high standard so much appreciated by the whole world.

"I like to think, as I did at the last Congress, that it is in this intelligent atmosphere of mutual understanding that we shall pursue our discussions, and at the same time render homage to Italy and her rulers.

"May I, in conclusion, express the hope that our work will be crowned with success."

Dr. BALLS then introduced his paper:—

"COTTON VERSUS JUTE AS A BALE COVERING."*

Dr. BALLS: "I need not go into details, but I would like to give you a little further explanation of what the subject means, and what further requirements are necessary. At the Prague Congress it was put forward by Mr. Arno S. Pearse that the cost of handling cotton for cotton bags and bale covers was about 1-20th of a penny per pound. Since then two years' investigation, aided by the collaboration of various people, especially by the Shirley Institute at Manchester, has shown that there is a definite advantage, even under the best of conditions, to be gained over handling cotton with jute, and that at a minimum valuation on the costing which I have attempted to make, the advantage is at least 1-20th of a penny per pound. It is probable that the advantage is really greater, and what I would like every spinner to do is to communicate with us, criticizing my attempt at computing the cost and calling attention to any other points, advantages or disadvantages which might occur to him.

"It is obvious that the advantage becomes greater the finer the counts spun. Since the paper on the subject was written we have obtained a few more points of interest, one of which I think will interest you. In the experimental spinning mill we carried out experiments from which we were able to get an evaluation of the amount of jute present. The amount of jute we found in certain samples was 1-100th of 1 per cent. of the weight of cotton. One-hundredth of 1 per cent. does not sound very much, and it is not very much, but it is sufficient to interfere with the drafting process and lead either to a break in spinning or a delayed break in the yarn. A point of particular interest is that although this cotton contained 1-100th per cent. of jute fibres, it did *not* come from the ginneries. The seed cotton was put into the jute bags, taken straight into the mill and ginned there.

"The jute which was found was entirely from the surfaces of the bags. A further point is that in similar spinning trials with typical commercial samples, we found about the same amount of jute.

* See Page 633.

"I think our assumption of four years ago about the importance of these surface fibres is pretty well justified. Although pieces of string and other 'foreign matter' are found in bales of Egyptian cotton, that is merely conspicuous. It is the stray fibres which so easily rub off the sides of the bags which are at the root of the trouble.

"It has been proposed to substitute cotton bags and cotton bale covers for jute. The immediate objection which is raised is that this would increase the price of Egyptian cotton, whereas every effort is being made to do everything to reduce the price of cotton. That criticism is talking too quickly. The apparent increase is not a real increase in cost, because we know that the cost is returned to the spinner in the mill. Of that we are now perfectly certain. In the finer counts the saving will not only be the 1-20th of a penny, but will amount to very much more.

"But the process of changing from jute to cotton bags and covers is not going to be a simple operation. I should like to give you an example or illustration of the difficulty. Supposing we found in our own countries some undesirable feature in wood; it would be in the interests of the community that all wood should be eliminated from our buildings and houses, and we commenced to change over to steel and concrete. The change from jute to cotton bagging in Egypt, from the fellah's viewpoint, would be much of the same order. We cannot do it piecemeal, even from Sakel or other varieties. It must be a big scale unit, such as the whole of the Delta region.

"Then we shall have to consider the fellaheen and matters important to his domestic economy. The question arises: how can we make this change with the least inconvenience and cost to him? He is the man who matters."

Mr. T. DUTTON (England) said: "I should like to express my very great appreciation to Dr. Balls for his paper, and say how pleased spinners are that it is the intention to bag cotton in cotton covers. At the same time I am sure Dr. Balls will appreciate the difference between scientific investigation and practical spinners' point of view. In the first place, I think any increase in cost is unjustifiable. A spinner has to send his yarn away in many forms of packing, and if he finds that the covering he is using is not adequate he at once, without discussing the matter of costs with his customer, changes to a better packing material.

"With regard to jute fibres from the coverings, I am afraid that very few spinners will agree that all the damage comes from the coverings. I have in my bag a very small sample of cotton taken from one bale. This sample contains pieces of string, a small piece of iron, and sundry items of trash. I do not think the pieces of string have any relation to the bale covering, but the hemp fibres from the string and, of course, to some extent from the bale covers and from the clothing of the fellaheen, are the cause of numerous breakages at the mule spindle point. One of my spinner friends has allowed me to use a report on his yarn. It is a similar report to many which give great pain to cotton spinners.

"The faults in the yarn are carefully enumerated, and under the heading of "hemp fibres" 12 per cent. of the total breakages are to be found. The fibres cannot be taken out by any machine, and it is absolutely essential that greater attention should be paid to the elimination of this fault by our cotton suppliers.

"Spinners appreciate to the full the good intentions of their Egyptian friends, and are aware that the attention paid to their requirements is better than that paid to any other growth of cotton, but they would like to see those good intentions carried out more precisely and carefully."

Dr. VAN DELDEN: "In my opinion, it is a mistake for the girls and men who handle cotton in the ginning factories to wear coloured clothing. The problem will not disappear until the people wear white calico clothes. However, the Egyptian Ministry of Agriculture are aware of it, and I hope they will find a speedy solution to the problem."

His Excellency E M I N E Y E H I A P A S H A said he assured the Congress that the question of jute and cotton bagging had been very reasonably stated, and the day on which the decision was arrived at that cotton covering would be used instead of jute, spinners would be quite sure that no more jute would be used. The cotton would not come into touch with any clothing. Jute would be barred from the cotton fields and ginning factories, and they would be quite certain that everybody who came into touch with cotton from the picking to the ginning and pressing stages would be compelled to wear white clothing. The Egyptian Government was willing to adapt itself and its services to make Egyptian cotton as perfect as it was possible to be.

HUMIDITY.

Mr. W. H. CATTERALL: "We have discussed the question of humidity in the meetings of the Joint Egyptian Cotton Committee. It is a very vital subject to all spinners. The question of tolerance has never been quite understood; we struggled hard to obtain the recognition of $8\frac{1}{2}$ per cent. as the standard moisture content of cotton; $8\frac{1}{2}$ per cent. is the standard of humidity which covers all yarn contracts, and it was only after a very long and at many times acrimonious discussion that we agreed to a tolerance of .4 per cent. each way. The question will continue to be raised until we spinners achieve what we originally set out to get, namely, $8\frac{1}{2}$ per cent. At the Prague Congress a resolution was passed unanimously by the Congress, and that decision is being carried out to the letter in the interests of good faith. Once we have discussed the matter and come to a resolution, then we must carry out the agreement until its expiration. The whole question will be raised again in 1936, and then we can again take up the question of tolerance."

Mr. Catterall drew attention to the fact that cotton bought on spot terms in Liverpool and Manchester contained far more excess moisture than was the case with cotton shipped on c.i.f. terms from Alexandria.

Mr. Catterall then read the following resolution:—

“This Committee confirms the Alexandria Humidity Agreement to remain in force until September 1, 1936, as decided upon at the Prague Congress, but the spinner members desire to stress that they do not wish excess moisture being applied in the ginning and pressing establishments of Egypt.

“This Committee asks the members of Alexandria Exporters’ Association to inform their houses and agents abroad of the wording of Alexandria Humidity Agreement.

“The Committee regrets to record that there has been an increase of moisture in cotton shipments during last season, as proved by the statistical information of tests made by official testing houses on behalf of the spinning mills, and requests all Alexandria exporters to take the necessary measures for the reduction of moisture in future cotton shipments.”

MR. CATTERALL: “I do not think that many people understood the agreement. We have had very serious complaints that the cotton which is being shipped at present contains excessive moisture. We therefore ask the Alexandria exporters to inform their houses of the agreement. In addition, there has been an increase in the quantity of moisture content during the past season.”

DR. BALIS: “The question will come up at the next meeting of the Committee. I should like to add that the Alexandria Testing Station is only too willing to do anything which will accommodate anybody’s convenience.”

The resolution was adopted unanimously.

NEW VARIETIES OF EGYPTIAN COTTONS.

DR. BALIS: “No introduction of new varieties of cottons takes place without a very good reason. After four years of careful consideration, we have at last decided to introduce our strain called Giza 12. You will find it amongst the varieties exhibited to the delegates in another part of this building, and it certainly is an interesting cotton. The reason for introducing it is because we cannot afford not to. It is a heavy-yielding cotton, and is of great value to the grower. It is coarse, but is as long as Sakel cotton. I feel sure spinners will be very pleased with it because of the extra length, but equally, of course, there will be a lot of complaints because it is coarse.

“But it is an interesting type and points to new possibilities in spinning. I want to warn you, however, that it has these two opposing qualities—it is long and it is coarse.

“I should also like to draw your attention to the improved Sakha 4 and Giza 26. Ordinary Sakha 4 is already on the market. It is a useful cotton, somewhat inferior to Sakel, but it is a very interesting sample because it enables the grower to grow Sakel on

land which has been visited by the wilt disease. Since then, Mr. Brown has been working on the isolation of sub-strains for hair-properties, and has evolved improved Sakha 4, which is a better spinning cotton even than Sakel itself. That type, by the way, is longer than Sakel and lighter in colour.

"Then we have another type of cotton called Giza 26, which is also a better spinning cotton than the existing Sakel. We, therefore, have a long Sakel and a very strong Sakel. Both yields are better than the original Sakel, and I do not think there is much doubt that as long as Sakel is wanted these two will take the place of existing Sakel.

"The whole future of these Sakel types of cotton is very curious. Even these improved yielders are still very much inferior to the heavy yielders such as Giza 7, and especially the new Giza 12. There are only two possibilities there. One is that the price of Sakel type of cotton must widen out to very much higher than it is at present. The only way of the growers obtaining that is for them to grow their Sakel types only in the highest grades.

The principal point I would note, however, is that not only is Sakel going to be as good as ever, but that it is going to be even better. All these have to meet competition of better-yielding cottons, and I do not see how Sakels could be cheapened. I may add that we have been working for some ten years in search of a heavy-yielding type of real Sakel."

Mr. WILLIAM HEAPS (England): "When one comes to consider the great work that this Committee has accomplished since its formation some seven or eight years ago, it is simply amazing. We have dealt with the question of humidity, preventing the mixing of cotton varieties and the elimination of foreign matter, but I think we have now reached the most important part of our work, and that is the creation of new varieties of cotton. I would like to be very plain and outspoken to our Egyptian friends. They are all out for mass production. I would like to tell them this: that if the trade revived to the position it occupied in 1928 they would not have the quantity of cotton to meet the demands of spinners. The Sakel cotton crop is diminishing. We must have something to replace it, and I always have in mind that with every new variety of cotton, the dyers, bleachers and finishers of cloth have got to create that perfect finish which Egyptian cotton deserves. I would like to point out that a great part of the Uppers crop is very unsuitable from a spinner's point of view. One finds that where there is mass production there may be a consequent lowering of quality, and it puts the Egyptian grower in competition with cotton grown in other parts of the world. I make a special request that, notwithstanding all the work of the Joint Egyptian Cotton Committee and the work carried out by Dr. Balls, that we would press the Egyptians to get along as quickly as they can. I make this special request to provide spinners with the finest type of Egyptian cotton which will enable us to make the finest type of cotton yarns in the world."

His Excellency FOUAD BEY ABAZA: "With reference to the remarks made by Mr. Heaps, I would say that the Egyptian

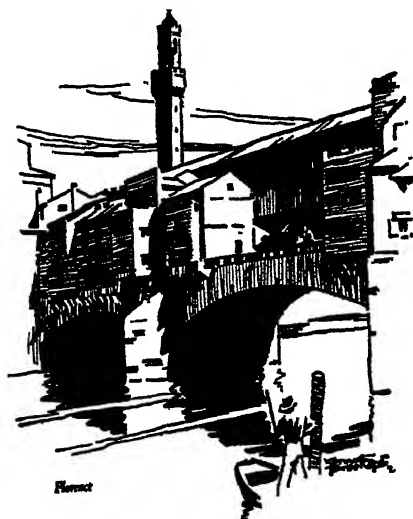
Ministry of Agriculture is working to the same end. With regard to the question of mass production, this is being done, for example, with Maarad cotton, but I would point out that Great Britain is the only country where there is no increase, or rather a decrease, in the consumption of Maarad cotton. We are now restricting its production to a yearly production of 500,000 cantars, a figure which is judged to be responding to market requirements.

"From one point you want mass production, but from another point you have restricted requirements, so I am afraid you have to vary it. That is the difficulty with the Egyptian crop. You want mass production, and then you do not consume what is produced."

Mr. HEAPS: "It must be suitable for our operatives to spin."

H.E. FOUAD BEY ABAZA: "I quite agree."

Dr. BALLS: "A poet once said: 'We needs must know the highest when we see it.' It can be seen in the exhibition of samples next door. You can have good cotton, but for the time being at any rate, you will have to pay for it."



THIRD SESSION OF CONGRESS.

FRIDAY AFTERNOON, MAY 3, 1935.

Dr. HENDRIK VAN DELDEN (Germany) occupied the chair, and with regard to the paper dealing with the "The Position of American Cotton in the World To-day," by Mr. C. T. Revere, the Chairman announced that Mr. Revere was not present at the Congress.

From the discussion which ensued it was obvious that the delegates took a great interest in the subject matter of the paper, and the Secretary was asked to thank Mr. C. T. Revere on behalf of the delegates for his very able and instructive paper.

FALSE PACKED COTTON

Dr. VAN DELDEN, the Chairman, stated that the United States Department of Agriculture had sent two bales of American cotton specially marked with an arrow device whereby the ginner of the bales could be easily identified. The bales were on the s.s. "Conte di Savoia" and were inspected by the delegates interested, but for some reason or other the bales had been lost in transit from the ship to Rome, and they had not yet been traced. He was hopeful, however, that they would be found and sent to the Congress, so that the delegates could examine the device first-hand.

He then called upon Dr. H. C. Taylor, the representative of the United States Department of Agriculture, to explain how the marker worked.

Dr. TAYLOR exhibited the cotton-bale marker proposed by the United States Department of Agriculture, and said:—

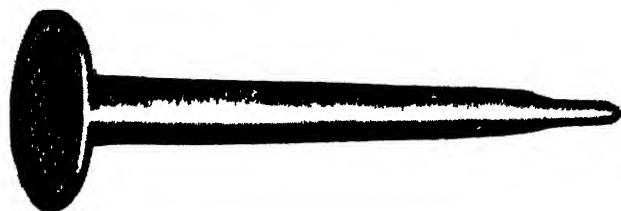
"The object of this marker is to be able to identify every bale of cotton. The arrow device was made of steel, but even should this get into a mixing of cotton, fire caused by friction could not occur because of the covering of cadmium over the steel. In the formation of the bale, the arrow was placed in the bottom of the gin box with its point extending upwards, the base of the arrow being locked to the hessian cover by means of a plate. The bale was then made up in the ordinary way over the arrow. When the bale arrived at the mill it was to be laid flat with the marker disc facing the floor, and was to be broken up and the layers of cotton removed in the usual way, and eventually nothing but the arrow and the hessian would remain, the arrow being still locked to the hessian and completely undisturbed. The arrow was always there. The flat metal base of the arrow had stamped upon it the number of the ginner, the year the bale was ginned, and the state of origin. The number made it possible for the ginner to be identified, which was very important in the case of false-packed bales."

THE GAUS MARKER

U.S. PATENT NO. 1,922,799



NUMBER ON FACE OF MARKER



NUMBER ALSO ON SHANK OF MARKER



PLATE TO LOCK MARKER IS PLACED
UNDER BALE COVERING



MARKER ATTACHED TO BALE

The Marker designed by the United States Department of Agriculture
and exhibited by Dr. H. C. Taylor at the Rome Congress.



The above is a photograph of the two bales specially sent to the Congress by the United States Department of Agriculture. The round marker may be observed near the top of each bale.

The bale on the right is baled in cotton cloth, and withstood the journey far better than the jute covered bale on the left.

Dr Taylor, by means of a large diagram, explained fully to the delegates how the arrow was inserted and how it remained in position until the bale was unpacked by the spinner

"The next problem," continued Dr Taylor, "is to develop some type of co-operation between your Association and the United States Department of Agriculture, which will enable the officials to forward the evidence to the United States Department of Agriculture, so that they could prosecute the ginner who makes the false pack. If you can suggest a method of co-operation and provide us with information, we can soon put an end to this false packing. The ginner who false packed would lose his licence and he would not take the risk, if he was going to have his living taken away from him. I apologize for the non-appearance of the two bales which it was hoped would have been opened in the presence of the Congress delegates. It is our constant desire to improve the methods of identification. We shall continue our efforts until the falsely-packed bale is detected and until we have more information upon the matter."

Dr VAN DELDEN: "We thank you for the information and I hope that the test bales will be received and that we shall be able to see them opened to-morrow before the Congress closes."

Mr F HOLROYD: "I should like to thank Dr Taylor for providing the chart explaining the working of the marker, and also to thank the United States Department of Agriculture for their ready attempt to do something to eliminate this serious trouble which we spinners of American cotton have to face. We do not yet know what this present move will lead to, but we are perfectly certain that it is a step in the right direction, and Dr Taylor can take it from both the English and the Continental spinners that every effort will be made to join with him and the United States Department of Agriculture so that we can identify the ginner who is false packing his cotton. It has led to untold trouble, and at my mill last year we had to engage a man to go through every bale of cotton that was opened. We have actually found good cotton on the top and 9, 10 and 11 inches in the bale we have found cotton that could not be described as being more than 1-in staple, whereas we had contracted for $1\frac{1}{8}$ ins. It is that type of offence that we must stop and I would like the Congress to mark this fact. I have been told of spinners who were formerly large users of American cotton buying Brazilian cotton instead, because they could rely on the Brazilian quality. We are wanting to get U S cotton back to what it used to be, and with the collaboration of other nations we hope that we shall be able to stop that which is as big a curse to America as it is to us."

Dr. VAN DELDEN: "We hope that this step will be successful. If there is any mixing, we hope that by the new device, it will soon be discovered."

Mr SCHLUMBERGER (France): "We desire in France to continue to use American cotton, but we must impose the condition that American cotton should not be packed in sisal. We have had very unfortunate experiences of using American cotton packed in sisal. The feeling of French spinners is that the prac-

tice should be abandoned, and that there should be a good covering for cotton."

Dr. VAN DELDEN: "The two bales that were on the ship and which have been lost in transit had very good bagging. One bale, I was pleased to note, was covered with cotton bagging, and I may say that the cotton-covered bale was in a much better condition than that covered with jute."

Addressing Dr. Taylor, the Chairman asked what was the extra price for baling in cotton.

Dr. TAYLOR: "We have no information at present."

Dr. VAN DELDEN: If you will get the price from the United States Department of Agriculture and hand it to the International Cotton Federation, we will publish it in the INTERNATIONAL COTTON BULLETIN."

Mr. HOLROYD: "If the United States wants to sell to Europe the quantity of cotton she formerly sold, then the question of the extra cost of bagging will not enter into the matter at all. That is a point I want to put before you. It will be up to America to send her cotton to Europe with good bagging, even if it costs her a few points more."

THE QUALITIES IN COTTON REQUIRED BY THE SPINNER

Mr. N. S. PEARSE: "I have written this paper with the idea of circulating it among planters in the cotton-growing countries, with the object of pointing out to growers in the Argentine, the Sudan, and other countries of the world what qualities in cotton the spinners required. During my tours in the United States I have often been asked by the cotton growers what types of cotton spinners wanted, and on many occasions I have had no alternative but to make impromptu speeches and addresses on the qualities required. I suggest that we should circulate copies of the statement to all papers, journals, periodicals and associations in the cotton-growing countries of the world."

Dr. VAN DELDEN: "I thank you, Mr. Pearse, for your suggestion, which I think is very useful."

FIBRES COMPLIMENTARY TO COTTON

Mr. MARIO GIANOLI was called upon by the Chairman to present his paper, and said: "In the paper which I have had the honour to prepare for this Congress, I have endeavoured to give you a general view of the different new fibres which are being adapted for spinning on cotton machinery and those which particularly interest our industry.

"Delegates have had the opportunity of examining in detail the staple fibre, its working, and the products which are obtained from it, at the Milan Fair, although you certainly know the general process and the technical development of rayon and staple fibre. I am, therefore, limiting my brief résumé to a detailed explanation of recent developments in the preparation. The staple

fibre obtained by cutting the sliver presented the inconvenience of extreme hygroscopicity, which greatly lowered the strength. As a matter of fact, the extremities of the cut fibre required the protective layer produced by the coagulation in the acid bath. This difficulty has been surmounted by cutting the rayon at the moment it comes out of the bath in such a way that the ends of the staple are submitted to the action of the acid. The flocks of staple are therefore much improved, and besides being less hygroscopic they increase in strength. As a matter of fact the neutralization and bleaching process can be applied directly to the staple fibre and it is no longer necessary to work the yarn as a whole, such as was necessary before; it is not now necessary to overcome the difficulty of treating the rayon in a continuous thread; in performing this delicate operation it was necessary to take into consideration the high velocity of the 'jiglage' of the spinning frame with the necessity of slowing down the passage of the thread, in order to expose it sufficiently to the action of the bath.

"Another solution which has been arrived at, and which is very interesting as regards this problem, has been achieved by recent experiments to produce the staple fibre direct to the length desired by an intermittent spinning. The bath usually employed has been substituted by acid vapour which attacks all sides of the fibres as they fall in cascades from the 'jigleurs' placed above. But my explanations will merely serve as comments upon the examination of the complex material which you saw at the Fair in Milan.

"I will therefore pass to the analysis of the elementary hemp fibre, for which I am much obliged to Dr. Cerini, and I have pleasure in passing among you these several samples.

"As you will see, the hemp plant is composed of a central stem surrounded by a certain thickness of elementary fibre, monocellular, imprisoned in a vegetable glue and protected from the outside by a thick bark, which is removed by means of retting.

"We are able to eliminate this glue, but only in part, for we obtain a sample composed of a mass of numerous elementary fibres glued together, sometimes having a length of two metres. This material, torn up into lengths of about 40 centimetres, is the hemp generally employed on the combing process.

"Leaving the idea of the retting of the material to the end of the process was an idea which came naturally in view of the isolation researches undertaken, but that which is new in this process is that we have not only succeeded in completely isolating the elementary fibres of hemp, but that the flocks finally obtained have important industrial application, and it is quite comprehensible, therefore, that it lends itself to the utilization of various purposes of spinning, either pure or mixed with either cotton, rayon or with linen. The elementary hemp is composed of monocellular fibres often appearing in the form of a tubular ribbon with a narrow channel in the interior. The average length is about 25-35 millimetres and the diameter is approximately 20-28 microns, dimensions both of which correspond more or less to those of cotton.

"In spite of my sympathy with this new fibre, I do not wish to hide from you the fact that this elementary hemp lacks the con-

volutions and also the protective coating so characteristic of the vegetable fibres developed upon the exterior of the fibre produced by the cotton plant.

"According to experiments which we have submitted regarding this hemp, the convolutions can be obtained by a chemical treatment, and we are trying to create an artificial protective covering by means of oiling or saponification. In any case, one should not forget that the process of elementarization and the technology of the new products are still in the initial stages, and in order to have entire confidence in the possibilities of spinning of hemp one should bear in mind the immense progress which has been made during the last few years with rayon."

SOUTH AMERICAN COTTONS.

No discussion took place on this subject, owing to the unavoidable absence of Dr. Camilo Levi, the author of the paper.

RECENT INVENTIONS IN COTTON TEXTILE MACHINERY.

Dr. VAN DELDEN: "Mr. Nasmith has prepared a paper which is very interesting, and I would call upon him to put his paper before the Congress."

Mr. FRANK NASMITH: "When a few years ago you asked Mr. English and myself to prepare a paper on new inventions in cotton machinery we were in the midst of developments in the blowing-room, and the paper gave details of the progress made in blowing-room machinery. Probably one of the most interesting new developments is that dealing with the alteration in machinery for dealing with staple fibre. Messrs. Courtaulds, of London, have taken over a cotton mill in Lancashire, where they are demonstrating the method for the manufacture of staple fibre. But it is difficult at the present time to say where the limit lies when we are talking of developments in machinery. In spinning it is more definite, but when we study processing and weaving, we find that developments are continually taking place in regard to new fibres. There is every evidence that the cotton industry is using other fibres. We are finding this to be the case in the knitting industry. The weaving industry, I think, is going to develop not so much in regard to cotton as for rayon in the near future.

"One thing I would like to say in conclusion is that for some years, in fact ever since the war, I have been looking for developments in the use of air under pressure, and also electricity. I hope that experiments will be conducted between the textile industry and the electrical manufacturer, as progress made in this direction may open up a new field for the development of textile machinery."

Dr. VAN DELDEN: "I thank you very much for your most interesting information. I hope that your paper will give us further important matters to consider on that point at our next meeting."

(This ended the Third Session of the Congress.)

FINAL SESSION OF THE CONGRESS.

SATURDAY, MAY 4, 1935.

RESOLUTIONS.

Mr. W. M. WIGGINS, the President of the International Federation occupied the chair.

THE EFFECT OF THE PRICE OF SILVER UPON THE WORLD'S COTTON TRADE.

Mr. WIGGINS: "The delegates will remember that the English representatives presented a paper on 'The Effect of the Price of Silver upon the World's Cotton Trade,' but in view of the diversity of opinion expressed upon the proposals contained in that paper, it is not the intention of the representatives of the English Federation to pursue further the subject at this Congress, but to suggest that the question should be remitted to the various affiliated Associations for further examination, and that the matter be placed on the Agenda, for the Autumn Meeting of the International Cotton Committee for consideration.

"We would, however, respectfully remind the Congress that the following resolution was carried at the Congress in Prague in 1933:—

'Whilst welcoming every effort designed to ensure a reduction of tariffs and other restrictions, this Congress expresses the conviction that a substantial rise in commodity prices is of paramount and urgent necessity; it is also essential that for the realization of these aims an early universal and equitable stabilization of currencies should be established.'

"This matter will therefore be discussed at the Autumn Meeting of the International Cotton Committee, but before that takes place each country represented on the Committee will be supplied with a copy of the resolution for their consideration, and also other documents. I wish to speak to the Congress quite frankly. The paper presented by the English Federation did not contain the whole of our data relating to the research which we have undertaken. It became too voluminous and we had to omit a large part of it. Only the major parts were included in the paper. We are prepared to let every other Association have further details and any information they may require on the subject, and we will be only too willing to answer any questions which may be put forward."

No further statements were made, and there was no discussion.

NET WEIGHT COTTON CONTRACT.

Mr. WIGGINS: "The Italian Association have carried out experiments regarding the purchasing of cotton on a net weight

basis, and they have prepared a paper on the subject. This shows a saving of 7 or 8 points on the cotton which has been purchased under those terms. What has been suggested is that the Italian Association will supply each affiliated Association with a copy of the results of their experiments, so that each spinner may consider it. I think that if we will follow their method it will be to our advantage. Copies of the report will be supplied in the near future."

HUMIDITY.

The following suggested resolution on the question of humidity was read to the Congress by Mr. W. M. Wiggins:—

"This Congress agrees that the Humidity Agreement shall remain in force until September 1, 1936, as decided upon at the Prague Congress, but the spinner members desire to stress that they do not wish any excess moisture to be applied in the ginning and pressing establishments of Egypt.

"This Congress asks the members of the Alexandria Exporters' Association to inform their houses and agents abroad of the wording of the above agreement.

"The Congress regrets to record that there has been an increase of moisture in cotton shipments during last season, as proved by the statistical information of tests made by official testing houses on behalf of the spinning mills, and requests all Alexandria exporters to take the necessary measures for the reduction of moisture in cotton shipments in the future."

On the proposition of Mr. W. H. Catterall (England), seconded by Mr. G. Berry (England), the resolution was carried unanimously.

Dr. BALLS: "My reason for addressing the Congress at this stage, as President of the Board of Trustees of the Alexandria Testing House, is not to raise any objection to the resolution, but to place a comment on record. I would point out that the actual amount of moisture found in an Egyptian cotton bale while the Humidity Agreement stands is immaterial, so long as the bale is not rotten and wet. It is immaterial because it has been decided that the amount paid for should be 8½ per cent. of moisture. That applies to all tests. So long as the agreement stands you have only to pay on the set allowance. I merely put this on record as a comment, and have no objection to the resolution going forward."

Dr. VAN DELDEN: "Dr. Balls has said we have only to pay on 8½ per cent.; but we have to pay down to only 8.9 per cent."

Dr. BALLS: "I admit it, but that is one of the points we will have to discuss next year, when the agreement terminates."

FALSE-PACKED BALES.

The following resolution on false-packed bales was moved by Mr. F. Holroyd (England), seconded by Mr. Windfeld-Hansen (Denmark):—

"The Congress acknowledges the attention which has been devoted by the United States Department of Agriculture to the

question of falsely packed bales of American cotton, but is strongly of opinion that the result so far achieved is unsatisfactory.

"The Congress is convinced that the evil is now more prevalent than ever, and calls upon the United States Government authorities to take immediate steps to eradicate the evil, not only in the interests of the spinners of the world, but in their own interests.

"The International Cotton Committee has ample proof that the consumption of American cotton has largely decreased because of this evil, and unless it is rapidly removed, that decrease will continue."

Dr. TAYLOR (U.S. Department of Agriculture, : I would like to ask whether the last phrase of the first paragraph is intended to indicate that you consider the marker, which was inspected by the Congress yesterday, and which has been prepared by the United States Department of Agriculture, as being unsatisfactory."

The CHAIRMAN (Mr. WIGGINS, : "No, no, Dr. Taylor!"

Dr. TAYLOR: "Thank you, then may I suggest that an addition should be made, which I hope will be incorporated in the resolution? Is the International Cotton Federation ready to enter upon some practical means of co-operation with the United States Department of Agriculture to provide practical measures for the eradication of this evil of false packing? There are certain things which we in the United States can do, but we cannot conduct full investigation and tests without your co-operation. Would it be possible to include in the resolution some statement to this effect?"

The CHAIRMAN: "I think I mentioned in my inaugural remarks that we shall do all we can to help the United States Government. It must be difficult to get reliable evidence which will be useful to the United States Department of Agriculture, but we in England could easily arrange matters. It is possible that some definite action can be taken to prevent the false packing of cotton. If spinners complain of false packing they can easily provide the evidence. It could be forwarded to the United States Government, who would be able to make investigations and penalize the offender. We are out to make it so that it will not pay to false pack. The penalty could be so stiff that it would not be worth while. We have a Joint Egyptian Cotton Committee which has always worked especially well, and I do not see why there should not be a Joint American Cotton Committee which could take up this question. Each affiliated Association will have to consider the question from its own particular point of view. They will have to see what they can do to help the United States Government to trace the offending ginner. We may safely promise Dr. Taylor that if the United States Department of Agriculture will supply us with bales packed with this arrow device, then we shall certainly give the method a trial. We shall then be able to carry out our investigations and, I hope, gain something to our advantage."

Mr. ARNO S. PEARSE: "When the Joint Egyptian Cotton Committee was appointed, the suggestion was made that the American Government should form a similar Committee, but the United States Government would not consent to it. To-day I hope they may see fit to adopt another view."

The CHAIRMAN: "An addition has now been made to the resolution which I believe will conform to the points raised by Dr. Taylor. The full resolution is as follows:—

"The Congress acknowledges the attention which has been devoted by the United States Department of Agriculture to the question of falsely packed bales of American cotton, but is strongly of opinion that the result so far achieved is unsatisfactory.

"The Congress is convinced that the evil is now more prevalent than ever, and calls upon the United States Government authorities to take immediate steps to eradicate the evil, not only in the interests of the spinners of the world, but in their own interests.

"This International Committee has ample proof that the consumption of American cotton has largely decreased because of this evil, and unless it is speedily removed, that decrease will continue.

"The Congress is much interested in the steps which the United States Government has taken in preparing a marker which will identify each bale, and the International Cotton Federation is ready to co-operate with the United States Government in any feasible plan for eradicating false packing of cotton."

The resolution was then carried unanimously.

Mr. W. M. WIGGINS (President of the International Cotton Federation) then announced that as Professor Olivetti, the President of the Congress, had to leave before the morning's proceedings ended, the Congress would now deal with the resolution of thanks to Professor Olivetti and the Italian Cotton Association. "As soon as we set foot in Italy," said Mr. Wiggins, "we were received with every possible courtesy. Upon every occasion—our arrival in Naples—our transfer from there to Rome—our memorable visits to His Holiness the Pope, His Majesty the King of Italy and Il Duce—in every possible way the Italian Association has given us the benefit of their hospitality. I do not know of words in the English language which would adequately express our thanks. I therefore have the greatest possible pleasure in moving this resolution of thanks to Professor Olivetti and to the Italian Cotton Association, and I am going to ask Dr. van Delden and His Excellency Emine Yehia Pasha to support it."

Dr. VAN DELDEN (Germany) said it was with the greatest of pleasure that he seconded the resolution. He spoke in enthusiastic terms of the wonderful reception given to the Congress delegates during their stay in Italy. "The receptions by Il Duce, the Pope, and that of the Committee by His Majesty the King, would never be forgotten by all who were privileged to take part

in them. The wonderful arrangements made and the kindnesses received were far in excess of their remotest expectations."

His Excellency E MINE YEHIA PASHA Egypt said he was extremely glad to support the resolution. "Let me add a few words before the Congress ends," said His Excellency. "We thank you very much for the welcome and the hospitality. We have not only enjoyed it in our capacity as nationals but as internationals. I express our thanks to everybody, but would like to thank particularly the President of the Congress, Prof. Olivetti, and all those who have helped to contribute towards the success of the Congress. I hope the next Congress, when held in Egypt, will be as successful as this one at Milan and Rome."

Mr. F. H. HOLROYD (England): "I cannot refrain from expressing my opinion about the Rome Congress, because I have had as much experience of Congresses as any other man in the room, and I am quite sure that in no other country have we ever had a better reception than we have had in Italy during these last few days. In fact, I do not recollect any other country where we have had so many official receptions from the highest personages in the land in so short a time as we have had in Italy. I am perfectly certain of one thing, and that is that the papers we read from time to time, and which we discuss, are of the utmost importance and do a vast amount of good by advancing the views of all countries. The important point is that we meet altogether as separate countries, and help to foster and create a spirit of goodwill between the various nations. This feeling will extend, and so bring nearer the time when nations will see eye to eye with each other, not only in commercial matters but in political matters as well. In no country that I have visited has that desire been so evinced as in Italy. I heartily support the resolution."

Mr. WIGGINS then asked the Congress delegates to show their appreciation, and the following resolution of thanks was carried with acclamation:—

"That the members of this Congress desire to place on record their sincere thanks for the generous hospitality shown to them by the Italian Cotton Association, and their appreciation of the excellent arrangements made for their comfort and happiness during their visit to this beautiful country. Especially are they indebted to the President of the Congress, Prof. Gino Olivetti, and to Mr. G. D. Delfino, for the wholehearted manner in which they have assisted in making the Congress so eminently successful."

DETERIORATING QUALITY OF AMERICAN COTTON.

The following resolution was moved by Mr. H. Windfeld-Hansen (Denmark) and seconded by Mr. T. Ashurst (England):—

"The Congress directs the attention of the United States Government to the gradually deteriorating quality of American cotton, which is undoubtedly one of the reasons for the diminishing consumption of such cotton."

"In recent years the Governments of other cotton-growing countries have concentrated upon and succeeded in improving the quality of their crops to the advantage of both growers and spinners alike, and this Congress is of opinion that the quality of the American cotton crop demands the most urgent and immediate attention on the part of the United States of America if they wish to maintain their position in the markets of the world."

Mr. WINDFELD-HANSEN said "We spinners who do c.i.f. business are greatly troubled by the present marketing methods. The resolution refers to c.i.f. firms, and not to spinners who do business in Liverpool or Bremen. All spinners here who do business under the c.i.f. basis will certainly agree with the resolution."

The resolution was carried unanimously.

MARKETING OF AMERICAN COTTON.

The following resolution was proposed, seconded, and adopted unanimously:—

"Whilst appreciating the difficulties of the American cotton grower and the desirability of ensuring him a fair return for his labour, this Congress expresses its strong disapproval of the present method of marketing the American crop.

"This Congress earnestly requests the United States Government to take all practicable steps forthwith to improve cotton marketing methods in such a manner as will remove this grievance and give greater satisfaction to the spinner."

SILVER JUBILEE MESSAGE TO HIS MAJESTY KING GEORGE V.

On the proposition of Mr. W. M. Wiggins, the President, seconded by Dr. van Delden, Senior Vice-President, the following message of congratulation was despatched to their Majesties King George V and Queen Mary on the occasion of the celebration of their Silver Jubilee:—

"Representatives of twenty-three cotton-spinning and manufacturing countries, including Great Britain, assembled at the International Cotton Congress at Rome, respectfully desire to express to their Majesties hearty congratulations upon their Silver Jubilee, and fervently hope that their Majesties the King and Queen may long be spared to guide the destinies and the future of their beloved and loyal peoples in the United Kingdom and the Empire.

Signed,

"WIGGINS, President, International Cotton Federation."

VENUE OF NEXT CONGRESS.

Mr. WIGGINS (the President) then announced that H.E. Emine Yehia Pasha had communicated to the International Cotton

Committee, at its meeting in Milan, an invitation from the Egyptian Government to hold the next International Cotton Congress in Egypt. It would probably be held towards the end of 1937.

His Excellency E M I N E Y E H I A P A S H A then extended the official invitation to hold the 1937 Congress in Egypt. Speaking in French, His Excellency said:—

“ Mr. Chairman and Gentlemen,

“ Allow me also to say a few words to our hosts with regard to their beautiful country of Italy: a few words upon our deep gratitude for the excellent welcome and hospitality which has been given to this Congress.

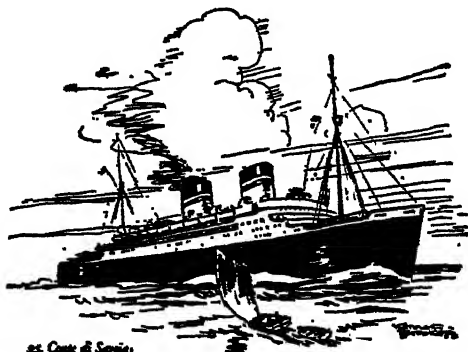
“ We have arrived at a stage in the development of remarkable co-operation, which not only serves the particular interests of our respective countries, but also the international interests, and in industrial and commercial quarters, upon which depends general prosperity.

“ As in the preceding years, we have discussed at this Congress problems which are of primary importance. I am happy to say that the spirit of co-operation and cordiality has not ceased to reign during all our debates. It has largely contributed to the solution of the problems which have occupied us, and has permitted us to arrive at some tangible results. I believe that I am only interpreting the wishes of everybody here present in expressing their deep gratitude to our sympathetic President of the Congress, Prof. Gino Olivetti, and to all those who have contributed to the success of this Congress, of which very pleasant memories will remain for a long time in our hearts. I hope that the next Congress, which will take place in Egypt, will find us all there in world conditions showing marked signs of improvement.”

Dr. VAN DELDEN: “ I propose that we telegraph to His Majesty King Fouad saying how grateful and pleased we are to receive the invitation.”

The invitation was accepted by the Congress with acclamation.

The Congress then terminated.



22. Court of Service

LIST OF DELEGATES

AUSTRIA.

Verein der Baumwollspinner und Weber, Oesterreichs, Maria Theresienstrasse 32-34, Vienna.

Kammerrat Erich Seutter-Loetzen, Firma Seutter & Co., Domgasse, 4, Vienna. President of the Austrian Association.

Otto Anninger, Spinnerei & Weberei Teesdorf-Schönau, A.G., Vienna. Vice-President of the Austrian Association and member for Austria on the International Cotton Committee.

Ing. Rudolf Haemmerle, Fa. F. M. Haemmerle, Dornbirn, Vorarlberg.

Hermann Rhomberg, Fa. Franz Rhomberg, Dornbirn, Vorarlberg.

Hugo Rhomberg, Fa. Franz Rhomberg, Dornbirn, Vorarlberg.

Dr. Friedrich Unger, Spinnerei & Weberei Teesdorf-Schönau, A.G., Schottenbastei 4, Vienna.

Ladies :—

Frau Klara Anninger.

Frau Dr. Annie Unger.

Frau Hedwig Rhomberg.

BELGIUM.

Société Cooperative Association Cotonnière de Belgique, Rue Savaen 58, Ghent.

Robert Brasseur, 58, Rue Savaen, Ghent. President of the Belgium Association and member for Belgium on the International Cotton Committee.

Gaston Braun, Secretary, Union Cotonnière, 51, Rue Savaen, Ghent.

M. Gustave Willems, Cotonnière des Flandres, 66, Rue du Chanvre, Ghent.

BY SPECIAL INVITATION.

Marché de Coton, 12, Place d'Armes, Ghent.

Robert P. Pfieger, 60, Boulevard du Château, Ghent.

Maurice Hubain, L. F. François & Co., Ghent.

Ladies :—

Mme. Brasseur.

Mme. Willems.

Mme. Marcelle Pfieger.

Mlle. Willems.

CZECHO-SLOVAKIA.

Hospodarsky Svaz Csl. Pradelen Bavlno, Revoluční Ia, Prague.

Ing. Otto Pick, Oberleutensdorf. Substitute member for Czecho-Slovakia on the International Cotton Committee and member of the Joint Egyptian Cotton Committee.

Victor K. Anninger, c/o Danubius Textilwerke, A.G., Bratislava.

Eugen Kubinzky, c/o Fried Kubinzky, P.O.B. 84, Prague.

Dr. Fried Kubinzky, c/o Fried Kubinzky, P.O.B. 84, Prague.

Franz Schnabel, c/o Schnabel & Co., Wien Wipplingerstrasse 33, Austria.

Spolek Československých Průmyslníků Textilních, Revoluční Ia, Prague.

Dr. Ernest Zucker, Nachod. Vice-President of the Czecho-Slovak Textile Manufacturers' Association, Prague, and member for Czecho-Slovakia on the International Cotton Committee.

Ferdinand Příbyl, Senr., Firma, Ferdinand Příbyl & Söhne, Slany, nr. Prague.

Ferdinand Příbyl, Jun., Firma, Ferdinand Příbyl & Söhne, Slany, nr. Prague.

CZECHO-SLOVAKIA—*continued.*

Allgemeiner Deutscher Textilverband, Reichenberg, Mühlfeldstrasse 6.

Otto Bankwitz, Kollergasse 16ii, Vienna.

Dr. Emil Kreibich, Rudolf Webers Erben, Schluckenau.

Dr. Hans Krick, Secretary of the Association.

Ladies :—

Frau Dr. Liesl Kreibich.

Frau Käthe Pick.

Frau Krick.

Frau E. Kubinzky.

DENMARK.

Textilfabrikaniforeningen, Vesterfarimagsgade, 24, Copenhagen.

H. Windfeld-Hansen, A/s Windfeld-Hansens Bomuldsspinderi, Vejle (Member for Denmark on the International Cotton Committee).

Director George James Hepworth, A/s de danske Bomuldsspinderier, Vejle.

Holger Sebbelov, Longangstraede 16, Copenhagen, K. Carl Flensburg & Sebbelov (Former Member of the International Cotton Committee).

Ladies :—

Mrs. Windfeld-Hansen.

Mrs. G. J. Hepworth.

EGYPT.

Members of the Joint Egyptian Cotton Committee.

His Excellency Emine Yehia Pacha, Egyptian Produce Trading Co., Alexandria (Vice-President, Joint Egyptian Cotton Committee).

Fouad Bey Abaza, Director, Royal Agricultural Society, Cairo.

Dr. William Lawrence Balls, D.Sc., F.R.S., C.B.E., Chief Cotton Technologist, Cotton Research Board, Giza, Cairo.

Youssef Bey Nahas, General Secretary the Syndicat Agricole d'Egypte, Cairo.

Hussein Bey Enan, Ministry of Agriculture, Cairo.

Constantin J. Choremi, Choremi Benachi & Co., Alexandria.

A. Weinstein, Secretary of the Egyptian Section of the Joint Egyptian Cotton Committee, Botanical Section, Ministry of Agriculture, Giza, Cairo.

BY SPECIAL INVITATION.

Ministry of Agriculture, Cairo.

C. H. Brown, Cotton Research Board, Giza, Cairo.

Royal Agricultural Society, Cairo.

Aly Sirry, Chief Seed Propagation Section.

Alfred Reinhart, P.O. Box 997, Alexandria. (Member for Commission de la Bourse de Minet-el Bassal and Alexandria Cotton Exporters' Association.)

Ladies :—

Mrs. A. Reinhart.

Mrs. Youssef Bey Nahas.

ENGLAND.

Federation of Master Cotton Spinners' Associations, Ltd., 529, Royal Exchange, Manchester.

W. M. Wiggins, J.P., T. B. Wood & Son, Ltd., Park Mill, Middleton, near Manchester (President, Federation of Master Cotton Spinners' Associations, Ltd.; Member for England on the International Cotton Committee; appointed President International Cotton Federation, 29th April, 1935).

ENGLAND—continued.

W. H. Catterall, J.P., "The Croft," Heyhouses, St. Annes-on-Sea (Member for England on the International Cotton Committee and the Joint Egyptian Cotton Committee).

Frederick Holroyd, J.P., R. & J. Holroyd, Springwood Mills, Holywell Green, near Halifax (Past President of the International Cotton Federation and of the Federation of Master Cotton Spinners' Associations, Ltd.).

Sir Richard Jackson, Oldham.

Major J. A. Barber-Lomax, M.C., A.M.S. Tech., F.T.I., Cannon Bros., Ltd., Bolton.

G. Berry, J.P., Baytree Mills, Ltd., Middleton Junction, near Manchester (Substitute Member for England on Joint Egyptian Cotton Committee).

J. Booth, Wood Bros., Ltd., Glossop.

T. B. Boothman, 23, Acresfield, Bolton.

E. E. Canney, 529, Royal Exchange, Manchester.

G. Clapperton, Combined Egyptian Mills, Ltd., Gloucester Street, Atherton, Manchester.

H. Cliff, J.P., 12, Yorkshire Street, Oldham.

R. J. Davenport, 11, Victoria Buildings, King Street, Wigan.

T. Driver, 91, Windsor Road, Oldham.

T. Dutton, Greenhalgh & Shaw, Ltd., Bolton (Substitute Member for England on Joint Egyptian Cotton Committee).

A. Eastwood, Lees & Wrigley, Ltd., Greenbank Mills, Oldham.

G. W. Fielding, J.P., 32, Booth Street, Ashton-under-Lyne.

T. E. Gartside, J.P., Shiloh Mills, Ltd., Royton, near Oldham.

W. A. Greenhalgh, Crosses & Winkworth, Ltd., Bolton (Member for England on Joint Egyptian Cotton Committee).

W. Hallam, J.P., Brook House, Taunton Road, Ashton-under-Lyne.

J. B. Haworth, Queen Mill Ltd., Ashton-under-Lyne.

W. Heaps, J.P., Shaw, Jardine & Co., Ltd., Butler Street Mills, Manchester (Substitute member for England on Joint Egyptian Cotton Committee).

T. Howarth, 6, Fleet Street, Bury.

O. L. Jacks, J.P., Ashton Bros. & Co., Ltd., Hyde.

W. H. Jones, Union Ring Mill, Ltd., Rochdale.

W. R. B. Mellor, Assistant Secretary, 529, Royal Exchange, Manchester.

A. C. Openshaw, Amalgamated Cotton Mills Trust, Ltd., Preston.

F. Partington, "Norwood," Middleton Road West, Oldham.

G. H. Pilling, Marland Spinning Co., Ltd., Rochdale.

B. Robinson, "Hawcoat," Chamber Road, Oldham.

W. Schofield, "Lyndhurst," Parkfield Road, New Moston.

C. H. Taylor, Albion Cottage, Huddersfield Road, Stalybridge.

J. Waller, Union Ring Mill, Ltd., Rochdale.

J. Walsh, Goyt Spinning Co., Ltd., Marple.

J. L. Whitehead, Acme Spinning Co., Ltd., Swinton, Manchester.

R. Whittaker, Cape Mill, Ltd., Shaw, Oldham.

G. H. Wild, Heywood & Roe Acre Mills, Ltd., Heywood.

Cotton Spinners' and Manufacturers' Association, 26, Cross Street, Manchester.

T. Ashurst, Secretary (Substitute Member for England on the International Cotton Committee).

Brig.-General A. Birtwistle, C.B., C.M.G., D.S.O., T.D., Billinge Scar, Blackburn.

ENGLAND—continued.

- E. Holden, 41, Guildhall Street, Preston.
 R. Houghton, J.P., G. & R. Dewhurst, Ltd., Preston.
 C. Ratcliffe, "Haverholme," Colne.
 J. Whitaker, Ormerod Whitaker & Co., Oakbank Mill, Burnley.

BY SPECIAL INVITATION.

- Lancashire Cotton Corporation, Ltd.*, Blackfriars House, Manchester.
 J. Littlewood.
British Cotton Industry Research Association, Didsbury, Manchester.
 Dr. R. H. Pickard, F.R.S., Director.
Textile Institute, Manchester.
 John Howard, India Store Dept., Belvedere Road, London, S.E.1.
 Frank Nasmith, Universal Winding Co., Manchester.
Textile Machinery and Accessory Exhibitors Federation, Manchester.
 A. S. Lowry, Oakwood Mills, Romiley, near Stockport.
Manchester Cotton Association, Royal Exchange, Manchester.
 Arthur Morris, Morris & Wilson, Royal Exchange, Manchester.
 Leonard Learoyd, Courtaulds, Ltd.
 Gerald H. A. Singleton, Platt Bros. & Co., Ltd., Oldham.

Ladies :—

- | | |
|---------------------|---------------------|
| Mrs. T. Ashurst. | Mrs. F. Nasmith. |
| Mrs. G. Berry. | Mrs. N. S. Pearse. |
| Mrs. F. Clarke. | Mrs. R. H. Pickard. |
| Mrs. A. Eastwood. | Mrs. G. H. Pilling. |
| Mrs. W. Hallam. | Mrs. J. Pogson. |
| Mrs. J. B. Haworth. | Mrs. J. Pogson, Jr. |
| Mrs. E. Holden. | Mrs. V. M. Smith. |
| Mrs. R. Houghton. | Mrs. C. H. Taylor. |
| Mrs. O. L. Jacks. | Mrs. John Taylor. |
| Mrs. J. C. Jones. | Mrs. J. Walsh. |
| Mrs. J. Littlewood. | Mrs. J. Whitaker. |
| Mrs. A. S. Lowry. | Mrs. W. M. Wiggins. |
| Mrs. A. Morris. | Mrs. G. H. Wild. |

FRANCE

- Syndicat Général de l'Industrie Colonnienne Française*,—20, Rue des Capucines, Paris.
 Paul Schlumberger, 11, Rue de la Montagne, Mulhouse (Immediate Past President of the International Cotton Federation and Member for France on the International Cotton Committee).
 Julien LeBlanc, c/o LeBlanc & Co., 13, Rue Faidherbe, Lille (Member for France on the Joint Egyptian Cotton Committee and Substitute Member on the International Cotton Committee).
 Georges Badin.
 Raymond Badin, Barentin, Seine-Inferieure.
 Charles Baudry, 23, Boulevard Beau Séjour, Paris, 1.
 R. A. de la Beaumelle, General Manager of the French Association.
 Marc. Bernheim, Ville (Bas-Rhin).
 P. Caulliez, Tourcoing (Nord).
 Albert Crépy, c/o Eug. Crépy, Lille.

FRANCE—continued.

Claude Delesalle, Desmedt Etabs, Canteleau, Lille.
 Louis Dubrule, Lille (Nord).
 Jean Fauchille, 7, Boulevard Vauban, Lille.
 Georges René Laederich, 2, Rue des Forts, Epinal.
 Jacques Motte, Rue d'Alger, Roubaix (Nord).
 René Offroy, Barentin, Seine-Inferieure.
 Fernand Quesnel, 23, Rue du Renard, Rouen, Seine-Inférieure.
 Eugène Ribatto, Manufacture d'Annecy, S. A. Annecy (Haute Savoie).
 Etienne Thiriez, 86, Bd. Sebastopol, Paris.
 Julien Thiriez, 63, Rue du Fbg de Bethune, Lille (Nord).
 Pierre Thiriez, J. Thiriez et fils, Lille (Nord).
 Baron Henri de Turckheim, Etabs. Laederich fils et Cie, Epinal, Vosges.

BY SPECIAL INVITATION.

Syndicat du Commerce des Cotons au Havre.

Jacques Roederer, 6, Rue Casimir Pereir, le Havre.

Dames :—

Mme. R. Badin.	Mme. G. R. Laederich.
Mme. C. Baudry.	Mme. la Vicomtesse de Lesseleuc.
Mdlle. Nicole Bernheim.	Mme. J. Motte.
Mme. R. A. de la Beaumelle.	Mme. R. Offroy.
Mme. P. Caulliez.	Mme. F. Quesnel.
Mdlle. F. Caulliez.	Mme. Riedberg.
Mme. A. Crépy.	Mdlle. Schlumberger.
Mdlle. T. Fontaine.	Mme. E. Thiriez.
Mme. C. Delesalle.	Mme. J. Thiriez.
Mme. L. Dubrule.	Mme. P. Thiriez-Wallaert.
Mme. A. Fauchille.	Mdlle. Denise Thiriez.
Mdle. L. Laulliez.	Baronne de Turckheim le Lavellière.

GERMANY.

Fachgruppe Baumwollspinnerei der Wirtschaftsgruppe Textilindustrie, Rauchstrasse 20, Berlin, W. 35.

Verein Süddeutscher Baumwoll-Industrieller, E.V. Augsburg, B. 263.

Dr. Hendrik van Delden, Firma. Gerrit van Delden & Co., Gronau, i/Westf (President of the Fachgruppe Baumwollspinnerei der Wirtschaftsgruppe Textilindustrie, Senior Vice-President of the International Cotton Federation and Member for Germany on the International Cotton Committee and the Joint Egyptian Cotton Committee).

Dr. W. Böhm, Geschäftsführer, Verein Süddeutscher Baumwollindustrieller, E.V. (Substitute Member for Germany on the International Cotton Committee).

Arthur Arnold, Fa. Spinnerei und Weberei am Sparrenlech, Augsburg.

Rechtsanwalt Theodor Amfaldern, Geschäftsführer der. Fachgruppe Baumwollspinnerei, Berlin.

Fritz Backofen, Mittweida.

Rittmeister Erich Werner Dietrich Barfurth, Fa. E.I. Clauss Nachf., Plauß b/Fiöha.

Dr. Ing. Wilhelm Bauer, Spinnerei u. Weberei, Offenburg, Baden.

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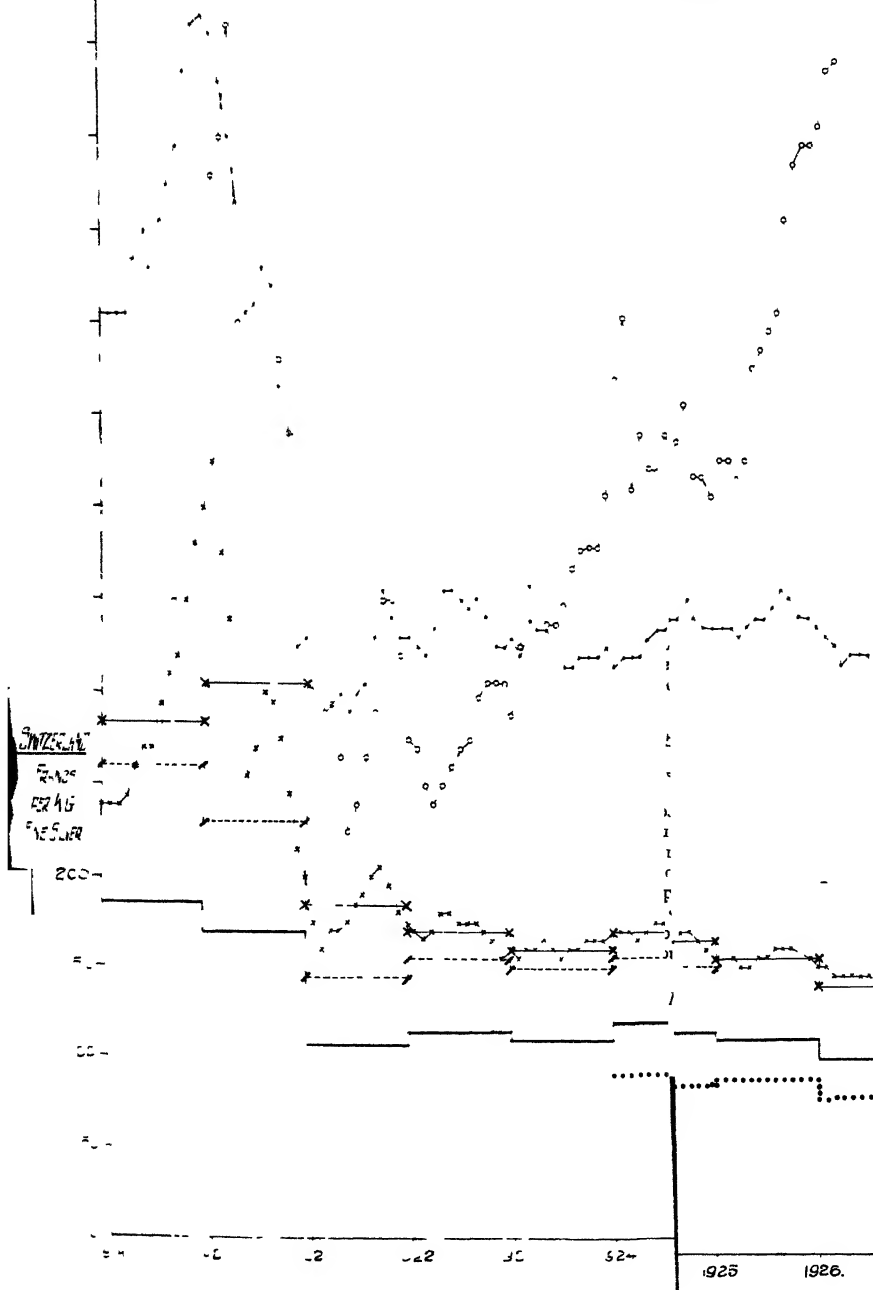
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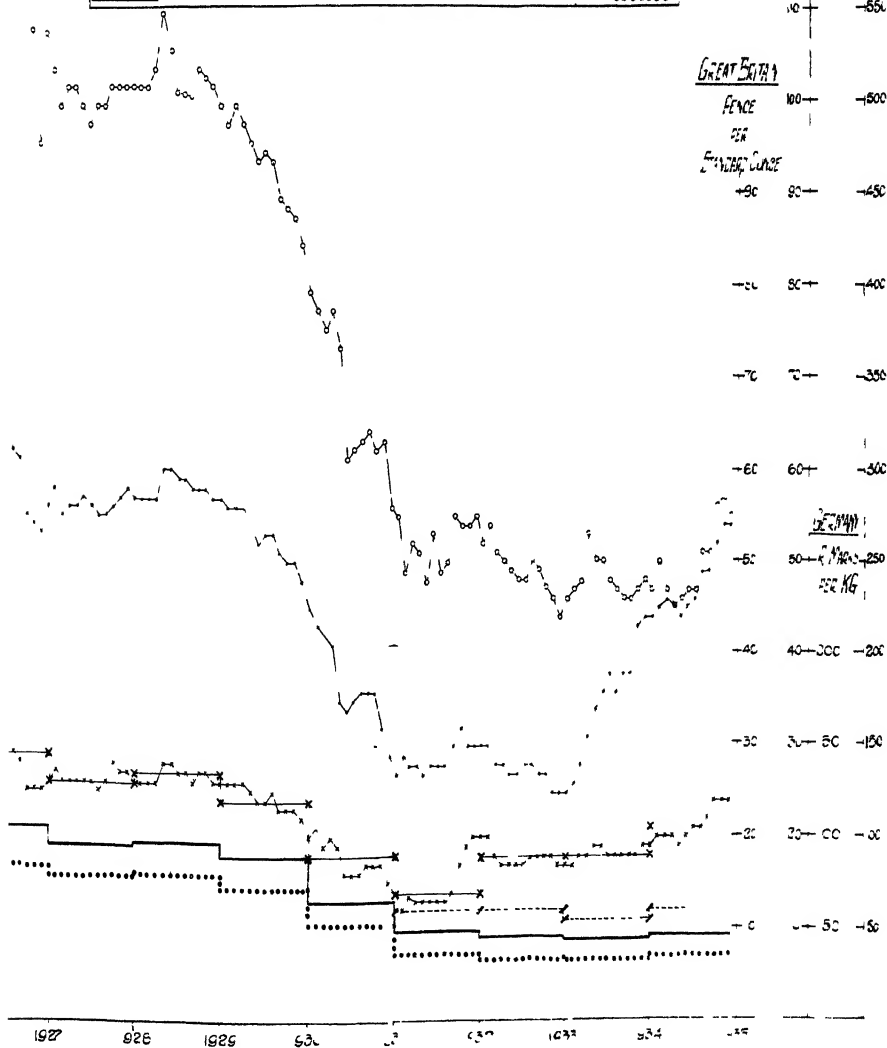
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Silver in Relation to Monetary Policy and the Cotton Trade of the World.

Paper submitted by the FEDERATION OF MASTER COTTON SPINNERS' ASSOCIATIONS, LTD., MANCHESTER, to the International Cotton Congress, Rome, 1935.

SUMMARY.

AS the title of this paper suggests, we have studied the relations between silver and the cotton trade from the point of view, mainly, of the world's cotton industry as a whole.

Changes of silver in gold value, i.e., changes in the gold-price of silver, have faithfully reflected the varying condition of the world's cotton trade, particularly since the War.

Each downward turn in the gold-price of silver we have identified with a corresponding measure in monetary deflation. Silver demone-
tization was, in itself, only one of these deflationary measures but was particularly powerful in exerting world-wide influence. Each rise in the gold-price of silver, since the War, has also been identified with a corresponding reversal of deflationary measures.

The fall in the gold-price of silver, though largely an effect of other causes, has also itself had considerable adverse effects on the world's cotton trade.

Quite apart from reduced earnings and purchasing power for those employed and investing in the silver mining industry, the fall in silver has greatly increased the financial difficulties of nearly half the world's population. Debt burdens, under conditions requiring the "distress" sale of their silver, have increased; and Governments, which have suffered losses in value of silver reserves, have been compelled to increase taxation on this account.

Lack of confidence in silver as a store of value has caused a flight from silver-hoarding to gold-hoarding and has also caused Governments to sell silver for gold in building up currency reserves. Depreciated silver has, in this way, been a contributory cause in forcing down the value of commodities in gold and in currencies rigidly or loosely attached to gold. Depreciated silver has thus helped to depress the price level of wholesale commodities and to reduce the earnings and purchasing power of producers in most parts of the world.

The decline in the wholesale price level of primary commodities has inflicted particularly great hardships upon the farming communities of the world, who are the principal consumers of cotton goods; and not until their lost purchasing power is restored will the problems of the world's cotton industry be solved.

The remedial policy required to restore world purchasing power

and to put the cotton trade upon a prosperous footing is conveniently summed up in the demand for the reversal of all post-war deflationary measures. All other aims in monetary policy should be subservient to the urgency of the need for a universal restoration of wholesale commodity prices to a prosperity level. As one of the essential means to this end, silver should be restored wherever possible to the place it held in the monetary systems prior to 1920 and during the War. The particular regions concerned include India, Asia in general, Africa, and Central and South America; and the more-advanced countries should assist them in rehabilitating silver.

SURVEY OF EVENTS, 1920 to 1931.

The Gold-price of Silver.

First we desire to explain why we have selected the gold-price of silver as the most suitable price in tracing the relations between silver and the cotton trade of the world.

The Chart gives the course of silver prices, 1919 to 1934, as quoted in France, the U.S.A., Great Britain, Switzerland and Germany, see Table I. Reading from this chart, in no year can we say that silver rose or fell by any particular amount in all the several currencies. Clearly, therefore, to avoid confusion, we must specify a particular price which applies to all countries.

We therefore confine our remarks, whilst on the subject of the world's cotton trade, to the gold-price of silver, which has moved uniformly in all currencies. We also take the course of silver prices 1920 to 1931, for the U.S.A., and 1931 to 1934, for Switzerland, as showing the movements in the gold-price of silver. The respective countries kept their currencies constant in value of gold during these periods. The movements of the gold-price in pence and the gold-price in Reich marks, as shown by the Chart, have, of course, conformed to the price movements in Swiss francs since the year 1925.

By determining, also, to what extent the fall in silver was a cause of the world depression and to what extent the fall in silver was itself an effect, of other causes, we shall come to a more exact estimation of essential remedies.

The Year 1920.

In the year 1920, the gold-price of silver was 101 cents per fine ounce, U.S.A.; and the cotton trade of the world was in a flourishing condition. Though, as in industry and agriculture in general, our costs had been increased with the rise in retail commodity prices, wholesale prices yielded substantial profits. Demand was setting a fast pace for the world's producers; and the demand for labour was increasing. If wholesale prices had kept constant at the 1920 level, we should have seen further increases in retail prices and costs; but margins, at the end of this readjustment, would have still yielded fair profits for efficient production.

At the 1920 level of prices, also, the heavy debts incurred by belligerent nations and the enlarged financial commitments of

primary producers and manufacturers in general were easily borne.

Further, it is important to note that, during the preceding War years, there had been heavy European coinage of silver. Asia had absorbed large quantities of high-priced silver in payment for exports and large debts had been incurred on the basis of high-priced silver. India for example increased her annual absorption of silver from the pre-war five-years' average of 8.78 crores of rupees to an average, 1916-1919, of 29.03 crores of rupees. Large transfers of high-priced silver, via Great Britain, from the U.S.A. had been authorised by the Pittman Act. Though China and India, in 1920, were both on silver currency, their inhabitants were prosperous to a remarkable degree owing to high prices for their produce.

The Year 1921.

Figures for the following year showed that some devastating influence had been at work. Wholesale prices in gold, e.g., the U.S.A., had fallen by 47 per cent. ; retail prices had fallen in the same country by 13 per cent. ; and debt burdens from the point of view of producers and manufacturers had increased in the value of their products by 62 per cent. Silver had fallen to 63 cents per fine ounce or by 37 per cent. The year universally was also one of great industrial strife and wages were substantially reduced, though in much less proportion than the money earnings of primary producers throughout the world.

In passing we would remark that the wholesale price level indicates what is, in fact, the wage level for primary producers, who comprise anything up to 70 per cent. of the world's population. This significant fact, if kept in mind, greatly assists to a complete understanding of our problem.

We identify this devastating influence with concerted actions by the Central Banks of the principal countries. For Great Britain, the Cunliffe Committee on "Currency and Foreign Exchanges after the War" advised, in December, 1919 :—

"Effect should now be given to the recommendation made in our Interim Report that the actual maximum fiduciary circulation in any year should become the legal maximum for the following year."

The eventual return of our own country to the pre-war gold standard was involved in this recommendation, which was put into effect. Joint Stock Banks were ordered to restrict credit ; and the British Treasury, by arranging incomings from taxation to exceed outgoings for current expenditure, was able, between April 1st, 1920, and March 28th, 1923, to burn fifty million pounds of Currency Notes and to withdraw seven million pounds of demonetized silver coin and sixteen million pounds of Bank of England notes from circulation.

As the result of the Brussels Conference, early in 1920, similar currency and credit contraction was imposed in other of the principal countries and their colonial Empires ; and the Continent sold large quantities of demonetized silver.

There was world-wide depression in trade. World creditors, as was

remarked by one of our principal Bullion Houses* in London, had assumed large responsibilities by creating premiums on gold and by obliging debtors to pay in gold. Financial crises were universal.

The fall in silver indicated the severity of the deflation which was in process ; and those who had need to pay gold debts out of silver reserves were naturally handicapped. The world's consumption of all kinds of cotton fell from 20.8 million bales, 1920, to 17.7 million bales in the year 1921.

The Years 1922 to 1925.

The years 1921-22 to 1924-25 were years of readjustment. Heavy losses to primary producers and manufacturing industries were met out of reserves accumulated during the profitable War years. Costs were cut in manufacturing industries, bringing prices more into conformity with wholesale prices of primary produce, which, under the stimulus of enlarged gold output and with large-scale international lending, inclined upwards. The U.S.A. recorded an increase in the Index of Wholesale Commodity Prices from 122, in 1921, to 151, in 1925, a rise of 22 per cent. With retail prices remaining stationary, the 1921 disparity between wholesale and retail prices was reduced.

Obligations in respect of international debts, though now fixed in gold, had been pared down considerably and, at the existing level of wholesale prices, i.e., of world money income, were met without serious difficulty. The Central Powers, whom the War had particularly exhausted, were still dependent upon loans for Reparations ; but, again, at the existing level of wholesale prices, it is probable that these loans would ultimately have created sufficient income to enable repayments to be made. Though there had been a great shake-out of War Profits, as far as concerned primary producers and manufacturers, there was in prospect a healthy revival, against which even the sternest financial opinion could have had no reasonable objections.

The two unadjusted factors, which affected mainly the belligerent nations, were internal War and industrial debts, which had been swollen out of all proportion, compared with prospective earnings, by the decline in wholesale prices. These debts must have remained as heavy burdens, even with a 20 per cent. recovery in prices from the bottom struck in 1921. With these two exceptions, readjustments had been made, or were in course of making, so as to re-establish a workable equilibrium between costs and prices, between wholesale and retail prices and between earnings and debts.

Civil wars in China created an extraordinary demand for silver ; and the moderate deflation of commodity prices in India (Table II.), due to the revaluation of the rupee from 2/-, in 1920, to 1/6, preserved a fairly prosperous condition and also resulted in the absorption of European demonetized silver as well as newly-mined silver. Silver users in Asia had not lost entire confidence in silver as the basis for savings and hoarding : and the trend in the gold-price of silver faithfully reflected the trend in world trade. Silver in U.S.A. cents per ounce rose from 63 in 1921 to 69 in 1925, or by 9 per cent.

World cotton consumption in actual bales increased from 17.7 million in 1921, to 20.4 million in 1924, and to 23.3 million in 1925 ; and manufacture was conducted at profitable margins, at least towards the end of this period.

The Years 1925 to 1928.

Such striking divergences occurred in the trends of silver and commodity prices in general, during the period 1925-28, that we find it impracticable at this stage to adhere strictly to the plan of discussing world trade as a whole. We compromise by dealing with conditions in three main groups of countries.

In the first group are the countries whose currencies were approximately at par with the U.S.A. dollar in the year 1920, see Table II. India, which in 1920 was on a silver currency, comes into this group. These countries were distinguished by a comparatively moderate rise in the wholesale commodity price level, i.e., 100 per cent. above 1914 against 200 per cent. or more above, in groups two and three. The rise in their internal costs was also comparatively moderate. They suffered a severe deflation in the year 1921 ; but the mild inflation, of the years 1923-25, left them with a comparatively moderate net deflation, 1925, cf. 1920. Their economic equilibrium, as above defined, was little disturbed. Financial burdens were comparatively small and the purchasing power of their peoples was not seriously less, over the period 1925-28, than in the year 1920. Costs deflation was comparatively simple ; and their producers and manufacturers retained their competitive power against producers and manufacturers in the third group of countries.

The second group includes Great Britain, the rest of the British Empire, Holland, Switzerland, Norway, Sweden and Denmark, see Table III. These countries, up to 1920, had roughly double the rise in wholesale commodity prices and in costs of production compared with the first group. Revaluation of their currencies back to the pre-war gold standards, which occurred in 1925, caused, therefore, a more severe deflation in wholesale prices. Costs could not be proportionately reduced. Great Britain, in this respect, was distinctively handicapped, and suffered serious loss of competitive power, against groups one and three, with corresponding unemployment. In the British Empire (India excluded) there was generally a serious loss of competitive power and great loss of purchasing power, particularly among primary producers.

The neutral countries of this group had comparatively small debt burdens as well as other compensations. The Stevenson Rubber Restriction Scheme, for instance, assisted Holland and her Empire ; and comparatively high-wage levels in Great Britain provided an expanding market for Denmark. There were, however, no compensating factors for Great Britain and most of her Empire.

The third group, which includes Italy, France and Belgium, with their Colonial Empires, passed through a period of severe inflation

in the years 1926-28, and revalued their currencies at from one-fourth to one-seventh their pre-war value in gold, see Table IV. This more than compensated for their national and industrial debt burdens, incurred in and about the War years. Their producers and manufacturers and the peoples of their Empires enjoyed increased purchasing power as well as increased competitive power. China, under the influence of moderate inflation throughout the period 1924-28, corresponding to the decline in silver, may also be classed with this group, particularly as regards competitive power.

Combining results for the three groups, the decline in purchasing power in the British Empire was more than offset by increased purchasing power in the third group, whilst purchasing power in group one was at least maintained. Cotton consumption in actual bales increased from 23.3 millions in 1925 to 25.5 millions in 1928. Moreover, with Lancashire rendered competitively impotent in the market for staple cotton goods, the rest of the world's cotton industry prospered and expansion was encouraged. Lancashire's finer-quality section was comparatively prosperous. The enhanced purchasing power of fixed-income classes and of wage-earners especially in Great Britain's sheltered industries and services provided a steady market for fine quality cotton goods.

Whilst the price of silver in U.S.A. currency fell 16 per cent. during this period, the wholesale price level was practically the same in 1928 as in 1924. Silver was losing value against gold and was declining in effectiveness as a complement to gold; but the annual gold output increased from an average, 1920-23, of 68 million ounces to 82 million ounces 1924-28. Large-scale international lending also continued; and the combined precious-metals basis for currency, credit, savings and hoardings was on surface appearances adequate.

Such prosperity as was enjoyed by basic industries in countries outside the British Empire was, however, on very insecure foundations. Among the adverse developments, at first small in influence but soon to assume overwhelming influence, were the following:—

1. There were signs that gold supply must fail to keep pace with demand. Each country as it adopted the pre-war gold standard, or even a devalued gold standard, experienced an immediate drop in wholesale commodity prices. This initial increase in the value of each currency unit was deliberately arranged and had no hidden significance; but the fact that wholesale prices continued in each case to decline, year by year, after the initial fall in prices, was significant.
2. Large-scale international loans to the Central Powers, during this period, were preventing the worst excesses in gold maldistribution. But the borrowing nations were not meeting their interest payments on earlier loans out of income. As time went on, an increasing proportion of new loans was being utilised in payment of past dues. At the existing commodity price levels, their money earnings were inadequate for recon-

struction and for debt payments in gold ; and debts could only be paid by further borrowings. This could not continue indefinitely.

3. The staple manufacturing and agricultural industries of the Empire (India excluded) were falling year by year into deeper depression. Under the competitive handicap of the seriously over-valued pound, such trade as was done was largely at a loss and bankruptcy and unemployment were increasing. National Budgets and External Trade were being balanced by the use of increasing amounts of the capital resources of the basic industries. This was also a condition that could not go on indefinitely.
4. Throughout the period, China was seriously disturbed by civil wars and needed and absorbed large quantities of silver. These emergency purchases offset the sales of demonetized silver from the Continent and (in 1927-28) by India. The full decline in the price of silver, which was otherwise bound to take place and to react adversely on world trade, was temporarily prevented. But wars in China could not go on indefinitely.

The Years 1929 to 1931.

These were the years of collapse. The adverse developments of 1925-28 grew to overwhelming proportions and coincided in effect.

1. Practically the whole world (China excluded) was on fixed gold standards. (Japan lifted her restrictions on gold export in January, 1930.) Competitively-advantaged nations such as the U.S.A., France, Belgium and Italy, were absorbing gold, not goods, in payment for exports. World trade was declining and most countries had resort to increased tariffs with the object of preserving home markets for native industries. Investment demand for gold also increased in most countries because the prospects for agricultural and industrial enterprise were unpromising. The rate of decline in wholesale prices was speeding up.
2. The financial unsoundness of the Central Powers became obvious. International loans, especially from the U.S.A., fell away in the year 1928 and ceased in the year 1929 onwards. Political motives inspired Great Britain and France to step into the breach. High-interest rates were an additional inducement. But with declining wholesale prices and national incomes, these debtor nations became less and less able to meet their commitments. The capital resources of the U.S.A., having no outlet for investment on the Continent, were invested internally and created a speculative boom in stocks and bonds. There was, however, little or no inflation in commodity prices, which, on

average, were only 3 per cent. higher, in 1928, and, in 1929, were 2 per cent. lower than in 1927. Agriculture and the staple industries did not participate in the boom.

3. With their capital resources now largely exhausted, there was widespread bankruptcy among the staple industries of the British Empire. National Revenues declined as expenditure on relief of the unemployed increased. Budgets, therefore, failed to balance. Declining exports and increasing imports (mainly due to the competitive handicap of the overvalued pound and to tariff increases overseas against British goods) coincided with diminished income from investments, in depressed countries overseas, and from shipping and other services. Thence developed adverse Trade Balances. Australia and New Zealand were the first to devalue currencies; and gold withdrawn by foreign powers and financial interests depleted Great Britain's Reserves and assisted in forcing Great Britain and her Colonial Empire off the pre-war gold standard.
4. Simultaneously with the above, the depressing effects of silver demonetization and of continued sales of surplus silver were fully realised. By the adoption of the Hilton-Young recommendations, the Indian Finance Minister was authorised to sell over a period of ten years 300 million ounces of silver.

Actual sales were as follows:—

1927	..	9.2	million	fine	ounces.
1928	..	22.5	"	"	"
1929	..	35.0	"	"	"
1930	..	29.5	"	"	"
1931	..	35.0	"	"	"

With more to come and with China enjoying comparative peace and reducing her demand, the price of silver fell precipitously.

Moreover, in India, the silver currency and note circulation combined was reduced by an equivalent of over 70 million pounds in the years 1926–31. Her agriculturalists were hard hit by falling prices for their produce. They could save little; and their demand for silver fell away abruptly.

The over-all effect of these changes was a precipitous fall in world wholesale prices and purchasing power. From 1929 to 1931, the U.S.A., Great Britain, India, Switzerland, Germany and Holland suffered a fall of about 30 per cent., and Sweden, Norway and Denmark suffered a fall of about 22 per cent. The gold-price of silver declined by 46 per cent. Cotton consumption in actual bales declined from 25.8 millions in 1929 to 22.5 millions in 1931.

EFFECT OF THE FALL IN SILVER PRICES OVER THE YEARS 1924 to 1931

As we have shown, we must go back several years if we are to identify correctly the original causes that finally produced the world collapse of the year 1931. We have also shown the part played by silver demonetization in the general deflationary programme which had been rigidly enforced by monetary authorities.

The precise effects of the fall in silver upon the world's cotton trade are as follows :—

First, as to the sharing of world trade, the fall in silver reduced the value of the tael and gave to the industries of China precisely the same competitive advantage, over the industries of the pre-war gold standard countries, as comes with a depreciation of the currency. The European countries which had devalued their currencies more than the fall in the gold-price of silver were not adversely affected by China's increased competitive power and, moreover, enjoyed the same advantage over the pre-war gold standard countries.

Secondly, as to the amount of world trade to be shared, the fall in silver considerably reduced world purchasing power. The several ways in which this decline in purchasing power resulted are itemized below, beginning with the least important. It should, however, first be noted that whereas the gold-price of silver fell, 1920 to 1931, by 70 per cent., the fall in the wholesale gold-price of commodities in general was only 53 per cent., and the fall in the gold cost-of-living index was only about 35 per cent.

1. Wage-earners and investors in silver mining suffered a severe decrease in purchasing power.
2. Countries which had need or desired to pay interest on gold debts, out of silver reserves, had to dispose of 33 ounces, in the year 1931, for every 10 ounces utilised, in the year 1920. With silver reserves only one-third as valuable, additional taxation was required to make up the loss, with resultant loss in purchasing power for the peoples concerned.
3. Whether silver be demonetized or not, about 1,000 million of the world's population have no local banking facilities and, because of climatic and home conditions, are compelled to keep their savings in the form of silver. In the general run their savings are too small for gold purchases. Asia in general, India in particular, and Central and South America and Africa

are the regions principally concerned. The depreciation of their personal savings, which, in retirement, in general depression and when crops fail, are used for debt payments, for buying necessities and to raise credit for farming operations, has inflicted great hardships upon them.

4. When the principal governments of the world, who have previously enlarged silver to an important position in their monetary system, as was general in the Great War, ultimately repudiate their obligations in respect of silver currency and announce their intention to debase silver, there are important reactions. The most important is that the governments of all countries, whether of major or minor importance, lose all confidence in silver as a store of value. With the certainty that silver reserves are to lose their value, they naturally seek to dispose of their silver and buy gold instead. The more substantial citizens, in countries where reliable banking facilities are absent and where accumulated wealth is kept in hoards of the precious metals, have the same distrust of silver and transfer to gold hoarding. This general flight from silver to gold means, of course, increased demand for gold. Gold supply becomes, therefore, less adequate relative to demand and gold increases in value of everything else. That is to say the gold value of commodities in general, on this account, declines. Summarising our conclusions on this aspect of the problem, we ventured to suggest, in "The Case of Lancashire for an Increase in the Price of Silver," published in *The Times* "Silver Supplement" of February 20th, 1934,

"That, if the monetary authorities of the Nations had not demonetized silver, Governments and individuals would have hoarded both gold and silver indiscriminately; hoarding pressure would not have been concentrated on gold and the proportion between idle metal and monetary metal would have been much less than it is now and than it was in the long depression 1875-1896."

Pursuing this line of inquiry further we calculated that if silver had remained approximately steady in gold-value, during the last eighty years, the devastating fall in commodity prices of the years 1875-1896 and of the years 1924-31 would not have occurred. There would have been progress, with little interruption to record, throughout the eighty years for the Cotton Industry and for world trade in general. Thus, though it is hard to identify exactly the injuries done by the fall in silver, it is a relatively simple matter to get a rough idea of what would have been gained and what not lost if the price of silver had not fallen.

REMEDIAL POLICY.

Basic Principles.

In the period 1925-31 monetary control practically all over the world, with China the chief exception, was brought into conformity with the gold-standard theory. This policy, as we have shown, worked its own undoing; and from September, 1931, onwards, monetary policies, viewed as a whole, have been in a state of chaos. A minority of countries still adheres, more or less, to gold-standard theories. The majority has experimented in many different directions.

It is at this stage, therefore, that our views on remedial policy are presented. What has happened since 1931 we shall discuss against our background of remedial policy, indicating those respects in which the experimenting nations have departed from, or have conformed to, the recommendations we have to offer.

In weighing up the merits and demerits of various proposals suggested to us, it was first necessary to establish the fundamental principles of sound monetary control. The following principles give our conclusions in this respect.

The supreme objectives, in the material sense, of sound government are progress in the production and exchange of commodities and a rising standard of life for the people. The chief function of a sound monetary system is to facilitate expansion in production and trade. The stability, in respect of monetary control, that facilitates production and trade is money stable in terms of wholesale commodities in general. Such money (whether in the form of gold, silver or paper currency) as remains constant in value of commodities in general affords, also, perfect service as a store of value and in preserving equitable relations between creditors and debtors.

We find however that monetary controllers, since the War, have acted in opposition to these principles.

Monetary controllers have argued that debt contracts, regardless of the commodity value of the currencies in which they were originally incurred, should be converted into contracts to repay capital and to pay interest in pre-war gold currencies. Currencies, regardless of any consequent change in the gold-value of commodities in general, should be kept constant in value of gold. Stability in currency exchanges is essential; and, even if this involves extreme instability in the economic, financial and political conditions of the nations, no sacrifice should be regarded as too great when required to maintain this stability. The chief function of a sound monetary system is so to control the supply of currency as to keep it constant in value of gold. Such government is sound as will lead its people along the path of whatever economic, financial and political sacrifices may prove necessary to maintain its currency constant in value of gold. With these ideas in respect of monetary control we profoundly disagree.

Our inquiries have shown conclusively that the deplorable condition of the world, in the year 1931, was mainly the result of attempts on the part of most governments to follow these precepts. Countries with particular advantages and others that departed from these precepts were not involved in the decline from the year 1924 to 1929, but became involved, in 1929-31, when they were acting in conformity with these precepts and when the effects of world depression upon them outweighed their distinctive advantages.

In stating our views on remedial policy we are also guided by our realization of the fact that to stabilize the condition of monetary deflation, which obtained in the year 1931, would have been to stabilize world depression and to risk even worse conditions.

“ Monetary Deflation ” Defined.

Here we deem it desirable to explain the meaning of “ monetary deflation,” of “ deflationary measures ” and of “ a condition of deflation.” The term “ deflation ” has been chosen for us by our monetary controllers. In their sense, to deflate is to reduce an inflated currency, and when they have stopped deflating the currency, normality is reached. They repudiate any possibility of excessive currency deflation.

We are in complete agreement with our monetary controllers as to the dangers of extreme inflation. A balloon excessively inflated will burst, and be rendered useless. If we let off the excess of gas from the balloon, the fabric is preserved and the balloon works effectively. If, however, we go on further deflating, the balloon loses air-buoyancy and ceases to function. Similarly, when excessive monetary inflation threatens, it is necessary to remove the excess of money in order to preserve the economic, financial and political structure. But if we adopt measures that remove more money than is necessary and go to the opposite extreme, the economic and financial equilibrium is again destroyed and the structure collapses. It is like a deflated balloon that will not rise and function unless re-inflated.

Objectives in Rectifying Deflation.

In deciding upon remedies, we have therefore taken account of the facts that there was danger of extreme inflation, in the year 1919-20, and that some measure of deflation was necessary. Having regard, however, to the enormous burden of War debts, and to the new levels established in national, industrial and agricultural costs, in the years 1914-1920, we are of the opinion that the amount of deflation applied in the years 1920-22 was excessive. Reduced severity of deflation in the years 1923-24 permitted a much-needed recovery ; and we have, therefore, taken the monetary conditions of the recovery year, 1924, as now the desirable objective for monetary control in our own Empire. All deflationary measures since the year 1924 we regard as undoubtedly excessive and as now requiring correction. Though monetary control throughout the British Empire, since September,

1931, has slightly relaxed the severity of deflation, a condition of severe deflation persists. A restored economic, financial and political equilibrium at the present level of wholesale commodity prices is impossible.

We are particularly concerned about the acutely-depressed condition of primary producers throughout our Empire ; and we take it as the first duty of our own monetary controllers to restore to them the lost purchasing power of which excessive deflation has deprived them. When the prices they receive for their surplus produce are again at the level of the year 1924, their purchasing power will be restored ; and we shall share again in their comparative prosperity. For other empires and countries, we are of the opinion that they should adopt a policy of monetary expansion, which should continue until their respective price levels recover to the level ruling in the last known year of healthy trade. President Roosevelt has set the 1926 level as his objective. Each government will, of course, judge of their own country's needs.

Non-monetary Causes of Depression.

We also realize that we shall be charged with very one-sided views of the problem if we do not show cognizance of the many non-monetary causes which are adduced as responsible for the world depression. We can, however, justify our claim that, in the main, these causes were the inevitable results of currency deflation and of the credit deflation which currency deflation enforced.

The time factor is important in this connection. Whereas currency deflation has comparatively immediate reactions, other reactions are more remote. The sequence is as follows :—

1. Credit restriction almost at once.
2. Merchants, who promote the world's business by buying ahead, soon see that they must suffer heavy losses on all stocks and, on this realization, are compelled to adopt a hand-to-mouth policy. Primary commodities such as wheat and cotton, which are bought normally from six months to two years ahead, fall earliest and most in price.
3. Later, as primary producers reap and sell their crops, the fall in prices reduces their income and purchasing power. Merchant-buyers of consumable goods, such as cotton fabrics, also anticipate this decline and also fall back on hand-to-mouth policy.
4. Coincidentally, manufacturers suffer reduced margins and, in times of severe deflation, are compelled to sell at a loss. After prosperous trade they usually have big reserves ; and sales at a loss are endured for a time in the hope of recovery.
5. Manufacturers after prolonged depression, however, with reserves rapidly diminishing or already exhausted, turn finally to governments for help. Imported goods in prosperous times

give no cause for anxiety but, after prolonged adversity, come to be regarded as threatening their very existence. The fact that many of their foreign competitors are selling below cost justifies complaints as to dumping. Thence pressure upon governments to keep imports out by tariff increases and finally prohibitive tariffs, the organization of boycotts, the adoption of quotas and the demand for subsidies. Thus, prolonged and severe deflation must finally result in the growth of Nationalism, which spreads from country to country—Nationalism in one or more countries aggravating the condition of other countries. Moreover, the demand, which at first was for emergency tariffs, becomes at later stages a habit of relying on tariffs.

6. The time spread between the first impact of severe deflation, which also turns out to be prolonged deflation, and extreme Nationalism, may be very considerable. Great Britain, with a non-tariff tradition, took approximately ten years to go strongly nationalist. India took only four years, and the old tariff countries slipped comparatively quickly into the higher-and-higher tariff policy.
7. Dumping at a loss and the low prices charged by those industries whose costs are in low-valued currencies exert a deflationary effect on world prices. Then, because prices are low, less currency is required ; so that, after each deflationary measure, monetary authorities are soon able to justify tighter conditions of currency and credit by arguing that there is no demand for more money.
8. Those countries which can be regarded as in a large measure self-contained, and which nevertheless are the main sources of world supply for essential raw materials, are almost bound, when they adopt the higher-tariff policy due originally to deflation, to have a large favourable balance in external trade. Gold imports necessarily make up the balance and, if at once used for internal currency and credit expansion, result in higher internal prices. When, however, the monetary authorities are intent on increasing the value, or maintaining a high value, for their currencies, the gold import is sterilized.
9. International debt payments in goods, in times of severe deflation and declining world trade, also injure the native industries of the creditor country. Tariffs go up, therefore, on this account. Payments in gold are enforced and this gold is also sterilized. It should be noted that international debt payments would not injure native industries if world trade were rapidly expanding, so that the primary cause of this gold sterilization is the currency deflation which results in declining world trade.

10. With declining prices in prospect and with disequilibrium between costs and selling prices in evidence, for all staple industries, private investors make security the first consideration and concentrate, first, on gilt-edged securities, and later, when trade depression finally undermines the financial stability of the nations, on gold-hoarding.

Currency contraction, such as the pre-war gold-standard policy has imposed upon a world in its post-war condition, therefore sets in operation a chain of other causes, which increases the demand for gold and enhances gold in value of everything else. These secondary causes, also, have deflationary effects ; but the initial currency deflation is primarily responsible.

It is true that the pre-war gold-standard policy could have been sustained with no ill effects by the post-war world, if gold output had increased comparably with the phenomenal post-war increases in gold demand. The world was saved in a very similar situation by a trebled gold-output from the decade 1880-1890 to the decade 1904-1914. This particularly enlarged gold-output permitted a recovery in wholesale prices, comparing the year 1914 with the year 1896, by about 50 per cent. for primary commodities and about 40 per cent. for manufactured goods. The pre-war gold standards then worked fairly well, precisely for the reason that they stimulated this re-inflation of prices. According to expert predictions, however, no such trebled gold-output can recur. Declining output is the expectation.

We would also point out that a full use of silver in the monetary systems of the world could also have saved the situation, even in post-war conditions. If silver had been preserved as effective a complement to gold as it was in the year 1919-20, or as it had been up to the year 1818 in Great Britain, and to the year 1873 in the rest of the world, the combined precious-metal basis would probably have been sufficient to satisfy the demands of the post-war world. But the obsession for gold standards resulted in silver demonetization and in the flight from silver.

Remedies Advocated by the Central Banks.

Nor can we neglect reference to the solutions proposed by certain of the central banking authorities. There has been strong advocacy, in the past five or six years, for concerted world action in economizing the available supply of monetary gold.

This economy of gold would necessitate, first, a better distribution of the available gold among the nations.

To effect this redistribution about half the gold now held by France and by the U.S.A. and less proportions of the gold held by Great Britain and other European countries, must come under the control of other nations. They are unlikely, of course, to make presents of this gold. Therefore, to get rid of it they must create unfavourable balances in trade and debt accounts. If, then, they adhere to any measure that keeps their internal price level as it is, the unfavourable

trade balance can result only from the abandonment of tariff and quota policies. Alternatively, they are in a position to undertake vigorous expansion of currency and credit and thus to raise internal prices to such a level that tariffs are no longer effective in keeping foreign goods out. Adverse trade balances, induced in this way, will result in gold exports.

This economy of gold would require, secondly, that the countries which received the gold made full use of it.

The gold as received must not be again sterilized. Moreover, international bankers, who have in the main dictated the percentage of gold that must be held against currency and credit supplies, must permit better use of available gold reserves in all countries. Lower gold cover against currency and much-larger and more-elastic fiduciary issues of currency must be allowed.

Clearly, then, this solution involves a revolution in the ideas not only of the politicians and monetary controllers of the respective countries, but also of international bankers. Such ideas as involve the accumulation of large treasure chests against the possible event of war must be abandoned. Trustworthy local banking facilities must be provided for citizens. International bankers must not interfere with the gold reserves of the several countries. And gold-output must keep the pace set by expansion in the production and exchange of goods.

When we probe all the implications of this policy to the bottom, we conclude that such concerted world action is in the highest degree improbable. Gold-standard theorists themselves argue the impossibility of assuring permanent international co-operation as one of the chief practical objections against the bimetallist solution. Yet the proposal for concerted action on gold is complicated with many financial and political issues that do not apply to the bimetallist proposals. Whatever is possible in this direction, it is obvious, must take years to bring into effect; and meanwhile the trade of the world will remain depressed. Another world war would, of course, force the hand of the politicians and financial powers alike and result in a redistribution and, necessarily for a time, a better distribution of gold. But war is a remedy that no humane or sensible person would either choose or await.

The central banking authorities, ever since the inception of their post-war deflationary policy, have also insisted, as the necessary solution to the trade problem, upon corresponding economic deflation. They have blamed governments and industries for not forcing down wages in conformity with currency contraction and lower prices. Though much has been done in this direction, they demand much severer cuts.

Now that we see the primary causes more clearly and understand, also, the full consequences of wage and price reductions, on world purchasing power, we make the following comments on this policy of economic deflation.

The policy of wage reductions in conformity with wholesale prices was always inequitable, save and except that capital and interest of debts were correspondingly reduced. But monetary authorities, who have always voluntarily or compulsorily deferred to the creditor interests, have themselves opposed such equitable all-round readjustment. This policy was, therefore, always impracticable; for it was not to be expected that particular sections, such as the wage-earners, would accept cuts that were not imposed on the creditors and other sheltered interests. Drastic and distinctive wage reductions must, therefore, mean political upheaval.

The world's central banking authorities have also blamed governments for their tariff policies and for refusing to accept debt payments in goods.

Our reply to this charge, as we have shown above under secondary causes, is that tariffs and insistence on gold payments were inevitable following the imposition of pre-war gold standards and other deflationary measures on the post-war condition of the world. **Our contention, in short, is that central banking authorities and international bankers cannot have it both ways much longer. They must accept both the responsibility and the consequences of their own actions.** Directly and indirectly they have produced so dangerous a state of international relations, in economics, finance and politics, that international co-operation for anything is a practical impossibility.

Remedies Advocated by the English Federation of Master Cotton Spinners' Associations, Ltd.

We take what we deem in the present circumstances to be the only practical approach to the problem. It has been repeatedly acknowledged by all governments that wholesale prices stabilized at higher levels are essential to restore prosperity. We therefore urge upon each and every government individually to take the necessary action to bring about a rise in prices, through monetary expansion, to the prosperity level inside their own country or empire, and thereafter to stabilize.

We know by experience that independent action is practicable. All countries since the war have at one time or another acted independently in applying deflation; and, in rectifying deflation, the same independence can be and should be shown.

For the British Empire, for instance, we know what the monetary conditions were in the year 1924, and we know that on the price level of 1924 the prospects of recovery were comparatively good. We also know exactly what the authorities have since done by way of deflating currency and forcing prices down.

The final stage in increasing the gold value of sterling to pre-war gold value was reached in April, 1925. Currency management, in the years 1925 to 1931, kept sterling constant in gold value, despite the increasing value of gold. The gold-exchange standard was imposed

on India, in 1926; large quantities of rupees were melted down and dumped on the world market; the aggregate of note and rupee currency in circulation was considerably reduced. We therefore recommend that each and every one of these measures be rectified, in as far as they apply, throughout the British Empire.

Our objective is to restore the equilibrium that obtained in the year 1924 between incomes and debts, between wholesale and retail prices, and between the respective values of gold and silver.

A similar workable equilibrium has been known to all countries, at one time or another, since the War. As and when they come to realize the prime necessity of raising wholesale prices to restore the equilibrium, we urge upon them to act accordingly.

The signposts *en route* to recovery are rising indexes for the wholesale price-level of primary commodities and for the wholesale price-level of manufactured goods, falling indexes for debt and other fixed charges, reducing margins between the indexes of wholesale prices and retail prices and a rising gold-price of silver. It is difficult for the business man to watch all these several indexes in the several countries with perfect understanding; and we are of the opinion that the gold-price of silver will be found adequate in itself. We can also simplify our recommendations as to remedies by urging the reversal of all measures responsible for the fall in the gold-price of silver.

What the governments of the world need, we are convinced, is for the government of our own country to declare, without any qualification, their intention to raise internal levels of prices throughout the Empire. With vacillation giving place to certainty, other governments will be encouraged to follow the lead. At the present moment, no government is certain of what Great Britain intends.

What the business interests of the world and the financial powers also need is this unqualified declaration for rising prices. Any suggestion whatsoever that implies the possibility of Great Britain's diverting from this course and, for instance, setting up another gold standard, allows no confidence in the mind of financiers, investors and merchants. The time, if ever, to talk about setting up gold standards, is when the world is again prosperous. Gold-sterilizing and gold-hoarding in a depressed world are capable of upsetting any new gold standard.

Our recommendations avoid all necessity for declarations of simultaneous and permanent co-operation on the part of the nations. Nor do they impose on monetary authorities hard and fast methods. They know as well as we do how to raise prices. As long as they reverse post-war policy adequately, the agricultural, industrial and trading communities will be satisfied in whatever manner the objectives are reached.

We recognize that just as some countries may be quick to take action and others slow, so there will be considerable disturbance in exchange parities. But exchange uncertainties in a period of monetary reconstruction and trade recovery, we contend, are much to be pre-

ferred to the exchange uncertainties and other uncertainties which must continue in a depressed world.

Such monetary expansion and restoration of wholesale prices as we envisage will finally restore an equilibrium between money earnings and debts, between wholesale and retail prices, and between gold and silver the world over. With this equilibrium restored we shall hear the last of debt repudiation as well as of under-consumption. So that creditors as well as producers should approve. Moreover, at prosperity price levels, currency exchanges will strike parities that will be practical and therefore comparatively simple to maintain. For currency depreciation by one or more countries against the rest, there will no longer be either purpose or legitimate excuse. The old monetary school should, therefore, approve of at least the final result.

SUMMARY OF EVENTS, 1931 to 1934.

Monetary changes since September, 1931, have been far too numerous for detailed explanation in this paper. The principal changes, however, are as follows.

The Sterling Group in General.

The Sterling Group, having abandoned pre-war gold standards, have slightly reduced the severity of their deflation, which reached its maximum intensity in early September, 1931. For Great Britain, the wholesale index of primary commodity prices, according to *The Economist*, now stands at 57 against an average of 52 in the year 1931, and against 100 in the year 1924. For India, the Calcutta index of wholesale commodity prices stands at 94 (Jan., 1935) compared with an average of 89 in 1934, 88 in 1933, and 91 in Sept., 1931. For the Scandinavian countries, for Australia and New Zealand, these countries having devalued more than sterling, the indexes of wholesale commodity prices record a greater increase. The Sterling Group are also less handicapped competitively by over-valued currencies, cf. French, Belgian, Italian and Chinese currencies, than they were in the year 1931.

The British Empire.

What has been done in the British Empire in general by way of reversing deflationary measures, is, however, very little compared with the severity of deflation practised since the War. Representatives of Great Britain, Canada, Australia, New Zealand, and the Union of South Africa, and India, included in their "British Imperial Declaration on Monetary Policy," signed July 27th, 1933.

"The undersigned delegation are of the opinion that the views they expressed at Ottawa as to the necessity of a rise in the price level still hold good and that it is of greatest importance that this rise which has begun should continue."

Notwithstanding this declaration, that a rise in the price level was of greatest importance, the monetary authorities have not yet taken the appropriate action independently and wait in the hopes of some international action.

Our Chancellor of the Exchequer, in his declaration on policy at the London Conference, said :

"I should like to submit to you that it is essential to bring about a recovery in the world level of wholesale prices sufficient to yield an economic return to the producers of primary commodities and to restore the equilibrium between prices and costs of production generally. It is clear that the present lack of equilibrium between prices and costs can only be remedied by a further drastic reduction of wages and other costs and by widespread bankruptcies, or by a sufficient recovery in the level of wholesale prices. In the opinion of the United Kingdom delegation, an attempt to obtain equilibrium by further large reductions of cost would be attended by intolerable suffering and holds no hope of success."

There is thus enough evidence that the vital need is known. Independent action has lifted our price level above the gold trend of prices but nevertheless still keeps our prices at a depression level. Up to the present moment, our authorities have refused to take further independent action.

With regard to silver and the British Empire, the Hilton-Young Commission as far back as 1926 showed perfect comprehension of the importance of silver to India. Quoting from their report :—

"The people of India have from time immemorial placed their trust in silver as their medium of exchange and their store of value. They are deeply interested in the value of silver bullion and it is contrary to their interests to depreciate it. The present proposals (those of Indian Government Officials) would inflict heavy losses on the poorer classes, who have their savings in silver ornaments and who would find their stores of value depreciated by perhaps 50 per cent. by the action of the Government."

Yet the recommendations of the Commission, when put into effect, brought the very results that the Commission argued against. Moreover, having experienced the disastrous results of 1926-32 policy, the Indian Government still unloads silver on the market and a further 80 million ounces was sold in the years 1933-34. The ex-Finance Minister of India, Sir George Schuster, who was instrumental in putting the Hilton-Young recommendations into effect, has no solution for India's grave financial problems except that sacrifices have to be made in these hard times in all countries.

Irresolution, on the part of our Government, and obstinate adherence as close as possible to gold-standard theories, on the part of our monetary authorities, are the main stumbling blocks to advance in our own Empire; and the impoverished condition of primary producers throughout the Empire, of course, reflects adversely upon the cotton trade of the whole world. Quota and tariff restrictions are in many cases enforcing reduced productivity, which nullifies the effect on aggregate purchasing power of such increases in price as have been experienced.

The U.S.A.

The U.S.A. has adopted a new gold standard at 59.06 per cent. of the old gold value with the option to reduce to 50 per cent. and, through the Silver Purchase Act, of June, 1934, has remonetized silver within the States and empowered the Treasury to purchase silver in quantities up to one-fourth of the total monetary value of gold and silver stocks. The U.S.A. (Bradsheet's) index of wholesale prices struck bottom at 86 in February, 1933, averaged 94.5 in 1933, and 107.4 in 1934. (1913 = 100).

President Roosevelt in his message to the World Economic Conference, July 5th, 1933, declared that the revaluation of the dollar in terms of American commodities was an end from which the government and the people of the United States could not be diverted. This declaration, notwithstanding, the dollar was revalued in gold in January, 1934, i.e., only six months later. The new gold standard, in a very considerable measure, ties the internal level of U.S.A. prices to the world trend of gold prices. Any rigid adherence to this standard makes a further substantial rise in internal prices dependent upon action by the Gold Block and by world gold hoarders. The new gold standard, in fact, largely cancels out the declaration.

The Silver Purchase Act of June, 1934, remonetized silver within the States and empowered the Treasury to purchase silver up to one-fourth of the total monetary value of gold and silver stocks; but the Treasury still adds to its hoard of sterilised gold, which now amounts to about £600 million worth in sterling. This sterilization of gold plus the retirement of gold certificates as silver currency is issued,

also cancel out in a large measure the benefits to world trade attending upon the rise in the gold-price of silver. The world's monetary basis of precious metals is broadened by the one measure and narrowed by the other. Other aspects of U.S.A. silver policy are discussed under the heading, China and the Silver Question.

Recently the U.S. Treasury has enormously increased the resources of the U.S.A. member banks for credit expansion. The deposits of these member banks with the Reserve System amount to 4,645 million dollars, or an excess in reserves of 2,300 million dollars. The main check to credit expansion is the existing price level which, for the basic industries and for agriculture in the U.S.A., is neither adequate for profitable enterprise nor certain to continue. Thus the new gold standard also cancels out credit-expansion measures.

This self-frustration on the part of the American authorities reacts upon the price level and trade prospects of the whole world and demonstrates the futility of vacillation in respect of the prime necessity of substantially raising the price level.

Unfortunately for the U.S.A. and for the world, Secretary Morgenthau of the Treasury has recently declared :—

"I am perfectly satisfied with the way our monetary policy has worked out during the last year, and see no reason for changing it."

The Gold Block.

Countries of the Gold Block continue to sterilize gold and to follow the course of economic deflation. France holds about £600 millions worth (in pounds at present parity) of gold in excess of strict requirements ; and private gold-hoarding continues to increase. The following table is self-explanatory :—

GOLD BULLION IN EUROPEAN BANKS, FEBRUARY 21, 1935†

Valued in pounds sterling at the old parity of exchange.

Banks of	1935	1934	1933	1932	1931
	£	£	£	£	£
England	193,065,176	191,082,187	142,982,859	121,347,773	141,592,350
France*	668,138,394	595,479,828	650,560,808	590,518,150	446,862,339
Germany†	2,938,750	15,495,800	39,213,350	43,708,700	102,899,400
Spain	90,729,000	90,487,000	90,354,000	89,942,000	96,614,000
Italy	82,927,000	76,575,000	63,283,000	60,854,000	57,308,000
Netherlands ..	67,870,000	69,450,000	85,636,000	71,800,000	37,172,000
Nat. Belgium ..	72,523,000	78,154,000	74,743,000	72,465,000	40,424,000
Switzerland ..	69,032,000	67,548,000	88,965,000	62,377,000	25,726,000
Sweden	16,017,000	14,566,000	11,440,000	11,437,000	13,352,000
Denmark	7,395,000	7,398,000	7,399,000	8,160,000	9,552,000
Norway	6,852,000	6,574,000	8,015,000	6,559,000	8,184,000
Total Week	1,244,487,320	1,213,871,313	1,262,572,017	1,139,166,923	979,636,289
Previous Week ..	1,244,542,682	1,223,121,201	1,254,333,343	1,131,458,634	976,937,669

* These are the gold holdings of the Bank of France as reported in the new form of statement.

† Gold holdings of the Bank of Germany are exclusive of gold held abroad, the amount of which for the present year is £1,060,200.

‡ The Commercial and Financial Chronicle, U.S.A., February 23rd, 1935, p. 1,192.

As was demonstrated, one would have thought with convincing clarity, by the British Empire in the years 1925 to 1931, the way of economic deflation leads to only worse conditions of trade.

Japan.

Japan, in 1930, restored the pre-war gold standard, and suffered a 20 per cent. fall in wholesale prices, cf. 1929, and a further fall of 10 per cent. in 1931. In the last three months of 1931, her trade fell considerably against that of the Sterling Group. Since December, 1931, Japan, by quick stages, has raised her internal level of prices back to the 1929-1930 level. What this country loses by the world depression, she has more than recovered by means of increased competitive power. The yen having depreciated in sterling from 2/-, in 1931, to 1/2, gives Japan the distinction, among the nations, of enjoying increased trade and expansion in productive enterprise. Though her silk producers suffer severely by reason mainly of the depression in the U.S.A., internal conditions have shown marked improvement; and her imports as well as exports have very considerably increased. Japan, however, controls the monetary conditions and purchasing power of only 90 millions of the world's population.

In introducing our paper on "Trade Restrictions" at Prague in the year 1933, our then President, Mr. W. H. Catterall, referred to a pronouncement on May 15th, 1933, of the Financial Commissioner, of the Imperial Japanese Government in London, who had said:—

"It is worthy of note that a change in Japan's monetary policy from one of severe deflation to a policy permitting freer currency circulation and cheap and abundant supplies of money has done much to relieve the pressure of the internal economic situation, a fact which gives rise to the belief that the adoption of such monetary principles universally over a long period, would greatly contribute to the world's economic resuscitation, and in this respect the international co-operation of monetary authorities is highly desirable."

Japan has conformed to this policy and has prospered.

The only hope we can see of world recovery is this readjustment-down of currencies, in commodity value, and this readjustment-up of commodities, in currency value. The monetary authorities, who have led us the way of depression, have prejudiced this readjustment by describing it as a competition in currency depreciation. It is, however, in justice and reason, correct to describe it as co-operation in readjusting currencies back to their former commodity value.

CHINA AND THE SILVER QUESTION.

The effects of rising silver on the trade and monetary system of China are now in the forefront of international discussions on the silver question. Before we give our own outline of what we regard as the essentials of China's problem, we shall therefore discuss the contentions that have been raised.

Sir Arthur Salter made a special study of China, in the closing months of the year 1933. His report to the Chinese Government was summarised in the *Economist* Supplement of May 19th, 1934, on "China and the Depression"; and, in an article to the *Manchester Guardian* of 28th June, 1934, he specially advised:—

- (a) That the drain of silver to Shanghai should be stopped by restoring the conditions which will attract the domestic investor to invest in enterprise in the interior.
- (b) That the prospective drain for export of silver abroad should be stopped by restoring the conditions under which foreign capital will again flow into China for investments.
- (c) That the attempts to push up the price of silver by artificial action should be discontinued.

In passing, we would note that, up to the end of 1933, there were no artificial attempts to push up the price of silver. India sold 50 million ounces of silver in that year, and the remonetization of silver in the U.S.A. did not begin until December, 1933, though silver was rising in anticipation in earlier months. The gold-price of silver, in the year 1933, fell to the record low level, in September and October, of 11·8 gold-pence, and for the year averaged 12·36 pence, another low record. China's decline in the years 1931-33 was essentially due to the facts that—

- (a) some of her competitive advantage gained during the years 1925-31, through falling silver and exchange parities against the gold-standard countries, was lost;
- (b) the world in general was in a severely-depressed condition;
- (c) depressed countries had introduced or increased tariffs against China's products;
- (d) declining prospects led to the withdrawal of investment from risk-bearing enterprises in China, and the flow of international capital which had gone China-wards up to 1931 was also checked.

If there had been no departure from gold standards, China would have continued comparatively prosperous, but the gold-standard countries and their Empires would have been reduced to conditions of chaos. In our reply to Sir Arthur Salter, we pointed out that the sacrifice of the world in China's interests could not be reasonably

countenanced, and that China had always the same solution to her internal problems as he himself had advised in his book "Recovery," page 83/84.

"It is, however, of great importance that they (world governments) should in the last resort have the alternative of concerted managed currencies safeguarded against their intrinsic dangers, since the difficulties of re-establishing the conditions under which gold can function properly will, in any case, be very great, and may be insuperable."

Sir Arthur Salter is not a rigid upholder of gold-standard theories.

On December 21st, 1933, President Roosevelt ratified the Silver Agreement reached at the World Economic Conference, and authorised the U.S. Government to purchase 24 million ounces of domestic silver, i.e., approximating to the annual production of the U.S.A. The Silver Purchase Act of June authorised the purchase of silver from abroad. Up to February 15th, 1934, the total receipts of the mints under these authorizations were 26,633,850 ounces, and *Handy and Harman estimate the Government's total acquisitions for the year 1934 at 317,400,000 ounces. The difference between silver acquisitions and silver coined appears to have been in part sterilized. Such silver sterilization, in our opinion, is opposed to the interests of the U.S.A. as well as of China and the world in general.

Gold-standard upholders in the U.S.A. and the world over have fastened particularly on the effects of these purchases on China. Their Financial Press argues that this means inevitable deflation for China, and that the U.S.A. authorities must hold themselves responsible for all the sufferings entailed upon the Chinese people.

This, it should be especially noted, is the first occasion since the War, on which the old monetary school has enlarged on what they have described as "the horrors" of deflation. Though every other country in the world has suffered much worse deflation than China has suffered, China is singled out for their condemnatory allusions to deflation. If they had likewise condemned deflation, in other countries, and were now sufficiently repentant to urge the rectification of post-war deflation, we should accept this particular alliance with the anti-deflationists as sincere. But at the same time they are bending all efforts and mobilising their considerable influence for the re-institution of gold standards and are admonishing nations, other than China, to pursue the course of economic deflation.

More reasonable, as we shall later show, is the attitude of the Chinese Government, which has recently adapted her internal monetary policy to the needs of the situation. Mr. E. Kann in "The Chinese Economic Journal" of January 1935, page 54, writes:—

"In conclusion of the chapter 'China' I should like to reiterate that high silver prices are not necessarily harmful to the country's

* Handy and Harman. 19th Annual Review of the Silver Market, 1934, p. 23

"economy, but rising silver prices are so. What is required is an equilibrium between silver prices and export produce. If and when the world will resume purchasing from China in quantities, we shall be witnessing a rise in local prices; in such an event we shall be able to stand higher silver prices. But as long as our exports are dwindling, rising silver prices are bound to bring deflation to this country, thus exercising a most harmful effect."

We are in complete accordance with this view and our full recommendations are designed to achieve this end. Though there must be a period of "rising silver prices," world commodity prices and purchasing power will increase accordingly, and thus satisfy the conditions in which China will be unharmed by the silver rise.

According to the Shanghai National Tariff Commission, the Wholesale Index of General Commodity Prices has moved as follows: The Gold Index of Wholesale Prices (U.S.A.) and the gold-price of silver are added for comparison.

BASIC YEAR 1913 = 100.

	1920	1921	1922	1923	1924	1925
China Wholesale Index ..	140	145	149	157	154	159
U S A. Wholesale Index ..	197	122	134	145	140	151
Silver, gold-pence ..	46	29	31	30	31	32
	1926	1927	1928	1929	1930	1931
China Wholesale Index	164	171	161	164	180	207
U.S.A. Wholesale Index ..	140	139	144	136	115	94
Silver, gold-pence ..	29	26	27	24	18	13

It is useful and enlightening to note that China was extremely prosperous in the year 1920, with silver at 46 gold-pence per ounce. China then shared in the world depression of 1921, when silver fell to 29 gold-pence, and also participated in the world recovery up to the year 1925 with silver at 32 gold-pence. From 1925 to 1931 there was considerable inflation, which undoubtedly helped to offset not only China's serious political troubles but saved China from sharing in the world collapse of 1929-31.

With the reversal of world deflationary measures, which we advise, China must, of course, lose her distinctive competitive advantage against the world. As explanation of this we draw attention to the marked disparity between the fall in the gold-price of silver as against the fall in the gold-price of commodities, in the period 1925 to 1931. Silver fell from 32 pence to 13 pence, or by 59 per cent., and commodities from (U.S.A. Index) 151 to 94, or by 38 per cent. Silver had lost monetary value as well as commodity value. With the Chinese currencies fixed in silver, this disparity meant inflation and increased competitive power for China.

Conversely, with world revival, silver would regain monetary value as well as commodity value and would rise higher in price than commodities in general. There would then be two possibilities open to China.

Either the Chinese Government would keep their principal currencies fixed in silver value; and the higher rise of silver than

commodities would result in a corresponding deflation of prices, whilst the pre-1931 competitive advantage out of low-priced silver would be lost. However, with a substantially enlarged world purchasing power, China, even with a reduced share of world trade, should increase her exports both in value and quantity. The amount of trade is the primary consideration and not the size of her share of world trade.

Or the Chinese Government would decide to maintain the existing level of internal prices and preserve the competitive advantage. This decided they must reduce the silver value of their silver currencies.

With these alternatives open to the Chinese Government, in the event of world recovery, we now examine what has actually happened, since 1931, with the assistance of the following table :—

	1931	1932	1933	1934
1913 = 100				
China Wholesale Index	207	184	169	159
France, Gold Wholesale Index	462	407	389	366
Silver, gold-pence	13	13	12	13

As the table shows, China has suffered a deflation in internal wholesale prices of 23 per cent., 1934 cf. 1931, a fall identical with that of the gold wholesale index of France. China has retained competitive power against the Gold Block countries, but has lost her competitive advantage against the Sterling Group, the U.S.A. and Japan. More especially since June 1934, with the U.S.A. Silver Purchase Act in operation, financial interests, owing to decline of profits in Chinese industries, and bullion speculators, with a view to profits from silver sales, have withdrawn large amounts of silver from China. A financial crisis has developed. China has also suffered by the closing of British markets against her products and by the general increase in world restrictions. There is no such compensation for China as would result from a substantial improvement in world trade.

There is no substantial improvement in world trade, because what has been done, in rectifying deflation elsewhere, is very little and has been done only under protest by authorities who still hanker after gold standards. Financiers, investors and traders live under the constant threat of a re-institution of gold standards. There is no certainty that wholesale commodity prices will rise ; no certainty that the staple farm and manufacturing industries will again yield adequate profits. There is no certainty that the several countries will retain their solvency. There is, therefore, world-wide concentration on gold as the only certain and secure object for investment. Further, as we have already shown, the U.S.A. has negated her silver policy by her gold policy. Gold goes out of sight throughout the world as fast as silver is rehabilitated, so that the net monetary result on world prices and purchasing power is small. It is significant, however, that U.S.A. silver rehabilitation together with the dishoarding of gold in the Sterling Groups (in India exceptionally) and the non-payment of international debts has slowed down the rate of decline even for the few countries that adhere strictly to gold standards.

On a rigid silver currency basis, China must in these circumstances suffer deflation; and, if the silver basis of her currency were left at the mercy of bullion speculators and of financial interests, her silver resources must be depleted. We have, therefore, recommended for China both an elastic currency management and such control of silver as many nations have applied in respect of gold. The following figures are illuminating as showing that the Chinese Government has had both the power to act, in accordance with our own recommendations, and has so acted. The delay in taking appropriate action has been, however, regrettable for China's point of view.

The following table shows the gold-price of silver, the Shanghai Index of Wholesale Prices (new basis year 1926 = 100) and the sterling value of the Shanghai Dollar in pence, for each month of the year 1934.

	Jan.	Feb.	Mar.	Apr.	May	June	July
Gold-Price Silver ..	13	12	13	12	12	12	13
Wholesale Index ..	97	98	97	95	95	96	97
Shanghai \$ in pence	15	16	16	15	15	16	16
			Aug.	Sep.	Oct.	Nov.	Dec.
Gold-Price Silver ..	..	..	13	13	14	15	15
Wholesale Index ..	..	..	99	97	96	98	99
Shanghai \$ in pence ..	..	..	16	17	18*	16	16
					16†		

* 1st to 14th October.

† 15th to 31st October.

On October 15th an official announcement was made fixing a customs duty on exports of silver as follows:—

“On silver dollars and mint bars, 10 per cent. less $2\frac{1}{4}$ per cent. minting charges paid, i.e., $7\frac{3}{4}$ per cent. net.

“On other forms of silver, 10 per cent. (in lieu of $2\frac{1}{4}$ per cent. previously charged).

“In addition, an equalization charge will be imposed upon exports of silver equal to the deficiency, if any, existing between the theoretical parity of London silver and the rate of exchange officially fixed by the Central Bank of China, after making allowance for the export duty.”

The intention apparently now is to manage a sterling-exchange standard, so that China virtually belongs to the Sterling Group.

As we have shown in this section, we have studied China's problems not without sympathy. Though we are naturally opposed to China's enjoying prosperity or immunity at the expense of distress in the British Empire and in the world generally, we do not aim at world recovery at China's expense. Our objective is prosperity shared with China.

THE WORLD'S COTTON TRADE, 1931-1934

The cotton trade of the world was going rapidly into decline down to the year 1931. If there had since been no breaks-away from the gold standard, it is certain that purchasing power and demand for cotton goods would have pursued a more precipitous downward course. Such reversals of deflationary measures as have taken place, despite the effect of other deflationary influences, have brought some relief.

WORLD'S COTTON CONSUMPTION IN ACTUAL BALES.

1929	Year ending 31st July	..	..	..	..	25.9	millions
1930	"	"	"	..	..	25.2	"
1931	"	"	"	..	..	22.5	"
1932	"	"	"	..	..	22.3	"
1933	"	"	"	..	..	24.4	"
1934	"	"	"	..	..	25.1	"

Excluding Germany.

1934	Half-year ending 31st January	..	..	..	11.8	"
1935	"	"	"	..	12.2	"

It is necessary to mention that a disproportionate amount of this improvement has accrued to Japan, whose monetary authorities are exceptional in their practical outlook and whose management of the yen gives to the Japanese Cotton Industry, against cotton industries under less-enlightened monetary control, an overwhelming competitive advantage.

The reversal of post-war deflationary measures has obviously still far to go in all other countries, before world purchasing power and world demand for cotton goods keeps the world's cotton manufacturing equipment at full running on a profitable basis.

TABLE I.

SILVER PRICES.

			United Kingdom per standard ounce		U.S.A. per fine ounce	Switzerland Fine Silver per kg.	Germany Fine Silver per kg.	France Silver per kilo
			Gold pence	Sterling pence	Cents.	Francs	R. Marks	Francs
1918	..	..	47	48	97	164	—	—
1919	..	..	52	57	111	187	—	—
1920	..	..	46	61	101	170	—	487
1921	..	..	29	37	63	107	—	291
1922	..	..	31	34	68	115	—	275
1923	..	..	30	32	65	110	—	366
1924	..	..	31	34	67	119	93	433
1925	..	..	32	32	69	116	96	490
1926	..	..	29	29	62	104	86	664
1927	..	..	26	26	56	95	78	503
1928	..	..	27	27	58	98	80	511
1929	..	..	24	24	53	89	73	465
1930	..	..	18	18	38	64	53	338
1931	..	..	13	15	29	49	41	260
1932	..	..	13	18	28	47	41	247
1933	..	..	12	18	35	45	39	243
1934	..	..	13	21	48	48	41	256
1934								
January	..	..	13	19	44	—	40	243
February	..	..	12	20	45	—	40	253
March	..	..	13	20	46	—	40	243
April	..	..	12	20	45	—	39	233
May	..	..	12	19	44	—	38	238
June	..	..	12	20	45	—	39	243
July	..	..	13	21	46	—	40	243
August	..	..	13	21	49	—	42	258
September	..	..	13	22	49	—	42	258
October	..	..	14	24	52	—	44	283
November	..	..	15	24	54	—	46	288
December	..	..	15	24	54	—	46	278
			London		New York	Berne	Berlin	Paris

TABLE II.**INDEXES OF WHOLESALE PRICES.**

				United States of America Bradstreet's	Calcutta Official	Japan Tokio Chamber of Commerce
				(July, 1914)		(1914)
1913	..	..	..	100	100	100
1918	..	..	..	203	180	224
1920	..	..	..	197	204	291
1921	..	..	..	122	181	236
1922	..	..	..	134	180	235
1923	..	..	..	145	176	236
1924	..	..	..	140	178	246
1925	..	..	..	151	164	242
1926	..	..	..	140	148	218
1927	..	..	..	139	148	206
1928	..	..	..	144	145	203
1929	..	..	..	137	141	193
1930	..	..	..	115	116	159
1931	..	..	..	94	96	133
1932	..	..	..	93	91	143
1933	..	..	..	95	88	162
1934	..	..	..	107	89	160
1934						
January	..	..	..	103	90	161
February	..	..	..	105	89	162
March	..	..	..	106	88	162
April	..	..	..	105	89	160
May	..	..	..	106	90	158
June	..	..	..	107	90	153
July	..	..	..	107	89	155
August	..	..	..	109	89	158
September	..	..	..	111	89	162
October	..	..	..	110	89	165
November	..	..	..	109	88	164
December	..	..	..	110	88	163
1935						
January	..	..	..	112	94	163

TABLE III.
INDEXES OF WHOLESALE PRICES.

		United Kingdom	Canada Bureau of Statistics	Switzer- land Labour Office,	Sweden Board of Trade	Norway Central Bureau of Statistics	Denmark Statisti- cal Depart- ment	Holland Bureau of Statistics
1913	..	100	100	100 (July, 1914)	100	100	100	100
1918	..	226	199	—	339	345	292	373
1920	..	295	243	—	347	377	341	292
1921	..	182	172	190	211	298	236	182
1922	..	154	152	169	162	233	179	160
1923	..	152	153	181	157	233	204	151
1924	..	164	155	175	155	269	228	156
1925	..	160	160	162	157	—	—	155
1926	..	148	156	145	149	198	163	145
1927	..	144	153	142	146	167	153	148
1928	..	141	151	145	148	161	153	149
1929	..	135	149	141	140	153	150	142
1930	..	114	136	127	122	143	130	117
1931	..	97	114	110	111	120	114	97
1932	..	94	105	96	109	122	117	89
1933	..	94	105	91	107	122	125	74
1934	..	97	112	90	114	124	132	78
1934								
January		97	110	92	112	120	130	79
February		97	113	91	112	122	131	80
March ..		97	113	91	112	122	129	79
April ..		95	111	90	113	123	128	79
May ..		95	111	89	113	123	128	77
June ..		95	113	89	114	123	128	76
July ..		97	113	89	114	124	129	77
August ..		98	113	100	114	127	134	78
September		97	113	89	114	126	135	77
October..		95	112	100	114	127	135	77
November		95	113	89	115	126	136	77
December		97	113	89	115	125	135	78
1935								
January		98	—	88	115	125	135	78
February		98	—	—	—	—	—	77

TABLE IV.

INDEXES OF WHOLESALE PRICES.

		France Statistique General	Italy Prof Bachi		Shanghai National Tariff Commission	
(July, 1914)	..	100	100	(February, 1913)	100	—
1918	..	344	409		—	—
1920	..	506	624		140	—
1921	..	337	577		145	—
1922	..	332	562		149	—
1923	..	431	574		157	—
1924	..	499	585		154	—
1925	..	561	690		159	—
1926	..	718	603	(New Basis Year)	164	100
1927	..	630	495		171	104
1928	..	634	462		161	103
1929	..	623	445		164	105
1930	..	543	383		180	115
1931	..	462	328		—	126
1932	..	407	304		—	112
1933	..	389	280	*	—	103
1934	..	366	273		—	97
1934						
January	..	388	275		—	97
February	..	384	275		—	98
March	..	380	275		—	97
April	..	378	273		—	95
May	..	372	273		—	95
June	..	363	272		—	96
July	..	361	270		—	97
August	..	363	271		—	100
September	..	360	270		—	97
October	..	352	272		—	96
November	..	349	274		—	98
December	..	344	276		—	99
1935						
January	..	349	277		—	99

The Question of Silver.

Submitted by the BELGIAN MASTER COTTON SPINNERS' ASSOCIATION, to the International Cotton Congress, Milan-Rome, 1935.

EVERYONE knows that the precious metals employed for monetary uses have different intrinsic qualities. These various qualities are found perfectly combined in gold, and they contribute, with the capital created during the course of centuries, to ascertain the stability value of monetary metal.

In comparison with the existing monetary capital the natural production of metal is small and ineffective in governing the rapid price fluctuations. As a result, these fluctuations, which are due to changes in the quantity of monetary metal available, are small and slow, with the effect that, in practice, they are often imperceptible, although careful calculations reveal these fluctuations.

The fact that gold is produced for the great part in one centre only, with production expenses almost standardized, and that its purchase price is normalized by the monetary parity which controls the purchases of the issuing banks, has further increased the stability of the value of gold. The latter is indeed not positive. It is not any more so than anything else which falls within social and economical limits, but this stability is sufficient.

This is the reason why gold is actually the most used monetary metal. It has replaced silver, which was formerly the most suitable metal used by the principal white races. Silver is the monetary standard in only China, Hong-Kong, Afghanistan, Ethiopia, Liberia, Macao, Mongolia and Hedjaz. In other countries—the British Indies, Ceylon, Mexico, Dutch Indies, Persia, Siam, Spain and its Colonies, British Somaliland, etc.—the minting of silver is suspended, but it is still used, however, as a current and legal method of payment.

Everywhere else the gold standard is the legal monetary system.

During the course of the nineteenth century London became the chief gold market where normally a large part of the production of this metal is dealt with. It is known, however, that the majority of the gold mines, of which the most important are those of South Africa, are situated within the confines of the British Empire.

The Gold Market of London, by its concentration, is placed in special conditions which are favourable to the stability of the price of the metal. This stability, as we have seen, is further strengthened by the fact that for their purchases and sales of gold, the central banks have adopted a fixed basis.

For a long time the silver situation as a monetary metal has been almost the same as that of gold; in fact, for this reason,

bimetallism has been able to persist such a long time, on the basis of a fixed standard 1/15.5. It must be added that this resistance would not have been possible without heroic measures and constant intervention by the State. Belgium in particular has experienced grave difficulties as a result of bimetallism.

Actually the position of silver as a monetary standard, after having deteriorated during the past years, has become desperate.

This fact is due to two groups of circumstances:—

1. The large number of silver mines, chiefly situated in North America (Mexico, United States and Canada), the production of which reaches 70 per cent. of the mined quantities in the world; the United States control 66 per cent. of the world's production.

2. The fact that silver is found in more or less great abundance in lead, copper and zinc, from which it is extracted.

Thus three-quarters of the world's production of silver is dependent on the extraction of copper, zinc and of lead, the amounts of which are themselves determined by their prices on the world's markets.

Having become a by-product, silver is no longer able to command the position of monetary metal.

For a certain number of years, the price of silver has fallen unceasingly.

This reduction is due to two chief causes: the large quantity of metal thrown on the market and the departure from the silver standard by an increasing number of countries since 1870, has led to the withdrawal of large quantities of white metal offered on the market. This metal has nevertheless found consumers; it has been bought partly by the Asiatic countries, India, Hong-Kong, and especially China.

The fact that China is the chief buyer of silver metal, of which it imports large quantities, causes many people to believe that the purchasing power of the Asiatic countries varies with the price of silver; but such is not the case. China *imports* silver regularly, so that Chinese importers of any kind of goods do not pay by means of silver. It is, on the contrary, the exporter who buys silver. It is with the product of her exports that China buys white metal.

Consequently, whatever may be the temporary effect on the business of Chinese merchants, considered individually, the increase in the price of silver does not signify that it will cause an equivalent increase in the quantity of the world's goods sold to China, unless the latter *sells* silver abroad.

In fact, silver in China is chiefly hoarded and does not circulate. It is kept in families, very often in the form of jewels, in order to pay the brides' dowry, to meet funeral expenses, to sustain the family during a famine in the provinces which are exposed to such.

One cannot do better than compare the function of silver in China with that of precious metals in the monastery treasures in the Middle Ages. In normal times the gifts of the faithful, exceeding "*cens*," "*rentes*," "*dimes*," etc., were transformed

into religious ornaments which served in the ceremonies of the order, but the community pledged them to the Lombards or sold them for the reconstruction of churches destroyed by fire, to buy land, to make the necessary purchases of grain in case of famine, to pay a ransom or a grant to the ruler. Gold and silver at the time of the monasteries in the Middle Ages circulated very little. The treasury of a community increased annually, and except under special circumstances was "frozen." Thus, a sacred vase, a cross, at times the leg or arm of the statue of a saint or of a patron of the community was sold or pledged.

One cannot therefore judge the phenomenon of prices in China according to our ideas, but rather according to those of feudal times.

It is quite true that China, through the intermediary of the Nanking Government and the Chambers of Commerce, has recently protested against the measures taken by the United States in favour of a revaluation of silver.

These measures of valuation for white metal have even caused the Nanking Government to suspend virtually the silver standard, and to create a stabilization fund of 100 million Chinese dollars. At the same time, the Government has established a variable duty on the export of silver. This duty is established on a basis of 10 per cent., to which must be added additional duty fixed each day by the Committee of Chinese Bankers. The variable duty follows the fluctuation of the rate of silver in London, and aims at a stabilization of the Chinese dollar at about 16d.*

These measures have caused a rapid depreciation of silver.

The measures taken by the Nanking Government under the pressure of Chinese commercial interests are clearly directed against the attempts to value the white metal undertaken partly to satisfy the necessities of the Seven *Silver States* of U.S.A., partly in the hope of increasing the purchasing power of countries with a silver standard.

It must not be forgotten that the purchasing power of the mass of Chinese peasants and coolies is extremely low, and that on the whole the Chinese peasant produces little for the market, and that he consumes almost all his productions, building his clay house from his field, covering it with reeds from the canals and ponds, exchanging rice for fish, stuffing his clothes with raw cotton to protect himself from the rigours of winter. Numerous Chinese peasants merely drink warm water with the addition of a few leaves of tea, and even so only after having harvested abundant crops.

The economy of the Chinese peasantry escapes almost completely the fluctuations of the markets; the insignificant sum of money which the peasant must obtain in order to pay his landlord, the usurer and the Public Treasurer is thus practically independent of metal fluctuations, the more so since in this economy of incredible penury, the smallest piece of silver is still a very powerful monetary unit, and furthermore the people of the community pay in copper coins.

* *The Economist*, 27th October, 1934.

The valuation of silver would thus not be able to revive commerce with China. What could revive it would be for China to put more native products at the disposal of Europe and the United States. However, it would be necessary for Europe and the United States to accept them; at the present time international politics are certainly not developing to this end.

This concentration in exchanges is only one aspect, but fundamental to the question of commercial intercourse with China.

There is also another; it is, however, necessary to establish this system of payment on a sound basis. It appears that under the pressure of facts, the Nanking Government is inclined rather towards systems which will permit, in good time, the introduction of the gold standard.

Here again, history comes to our aid.

During long periods in the course of the Middle Ages, European countries were subject—even as China is to-day—to an agricultural regime of family economy, almost without any relation to a monetary system. Then gold was used in international commerce for relations between “mercatores” who guaranteed small exchanges between industrial centres and social groups, who, by the accumulation of dues, “dimes,” etc., disposed of an infinitely more considerable purchasing power than the multitude of the rural communities.

On the contrary, silver played the rôle of the means of payment between the semi-closed communities and their rulers, between the country and the periodical markets.*

There thus existed a real graduation, an authentic hierarchy between the means of payment adapted to various methods of economy.

China's commercial relations with the capitalistic world are indisputably within the sphere of the gold standard, which China will some day adopt. But this reform will only affect the ports and the industrial zones, which are controlled by Chinese capitalism itself. The agricultural communities will scarcely be affected by it.

They will continue to hoard the few silver pieces reserved for emergencies, droughts, floods, in clay jars. These hoards alone make Chinese agriculture temporarily dependent on the market.

But the manipulations of silver could not affect the communities and develop “their buying power.” The latter is normally almost nil and free from the influence of the price of precious metals.

As for the use of silver pieces as divisional money, this remains fairly general; but it is also tending to lose its importance; cheaper metals, such as nickel, present more guarantee against counterfeiting, and others, e.g., aluminium-bronze, have been accepted completely in the circulation of certain countries. In any case, it is not the textile industry which would benefit by an extension of its employment.

* *Marc Bloch. Gold in the Middle Ages. Annals of Economical and Social History.*”

With regard to statistics tending to show a parallel between the fall of silver and the European export of yarn and cotton fabrics, they demonstrate nothing positive. The reasons for the drop in exports are known; these are the construction and the extension of cotton mills in the countries of the Far East and South America, the effects of the war, which cut off many business connections, and led to acute national economy. These causes are independent of the production of silver.

At the most, it may be assumed that the countries of the Far East have become less and less prosperous since the armistice, silver has suffered thereby like all goods, which they buy in preference. But the converse is not true, and the general return to silver would not revive in the least the exportation of cotton textiles to the Far East. In reality, and in the main, products and services between nations, and consequently in the contemporary world, are exchanged on the basis of their gold value. To introduce the silver value in this balance they would cause complications, and would be incapable of increasing the volume of exchange in an efficient and permanent manner.

The above considerations show that silver has ceased to combine the essential qualities of a basic monetary metal, its production is too large and uncontrollable, and its price too variable.

The theory that to value silver would revive trade with the people of the Far East is not established; China, although the principal country interested, repudiates it.

Historical evolution is opposed to the ambition of the silver mine owners and producers of this metal; the number of people in favour of silver as a monetary standard tends to diminish instead of increasing.

The Economic Conference in London showed that such was the case, in spite of the efforts of the United States.

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The Depression, and International Money Standards.

By ROBERT P. PFLIEGER, *Secretary, Marché de Coton de Gand.*

THE "CYCLICAL" THEORY OF THE DEPRESSION.

THERE is little doubt that the present depression, both in intensity and in scope, surpasses any economic crisis recorded in modern times. Its very virulence has given rise to much speculation as to whether, instead of being a cyclical depression of a well-known type, it was not, rather, an expression of deep structural changes to which our civilization was subjected, as a consequence of the war and its results.

It seems fairly certain to-day, however, that there is no essential difference in kind between the slump from which we are suffering so acutely, and others which have been known to recur at fairly regular intervals in the past. But its effects have been aggravated in a considerable degree by various causes which have weakened the resistance of the economic body to adverse factors, the cumulative effect of which became well nigh irresistible.

The genesis of the depression is, I believe, very similar to that of past crises. An excessive profitability of enterprise has fostered overdevelopment, particularly in those industries producing capital goods. Cheap money rates contributed to this tendency, and helped facilitating stock speculation which in the light of ever increasing industrial gain, was logical, secure, and profitable. Inflation of a dangerous type soon developed. Booms always carry corrective elements within themselves. The expansion of the world's industrial plant, nurtured by credit freely given at low rates, finally reacted on these very rates. The banks, sensing the unsoundness of the situation, put on the brakes and made it harder to obtain financial accommodation. Production costs had meanwhile risen in such proportions as to bring about a marked decrease in profits, particularly in capital goods industries. This soon reacted on stock market quotations. Untoward events, conspicuous failures and financial scandals spelled the end of the inflation bubble, and the game was up.

CONTRIBUTORY FACTORS, PECULIAR TO THE PRESENT DEPRESSION.

The origin of the depression, and the course which it has followed, have undoubtedly been affected by a variety of contributory factors. We are probably still too near these events to be able to gauge their relative importance, but we can at least clearly recognize the existence of most.

The political situation arising out of the war undoubtedly had momentous economic consequences. The debts question and the

practically insoluble transfer problems which it raised; the creation of new states with, sometimes, disputed frontiers, and the rising tide of nationalism everywhere; the establishment, on national grounds alone, of industries needlessly duplicating already existing plants; all of these causes hastened the arrival of depression, and increased its weight.

Technical progress in agriculture, on the other hand, tended to create a condition of practically chronic overproduction, the strain of which was perhaps bearable as long as the world enjoyed fairly general industrial prosperity. Indeed, the general inflation of prices undoubtedly helped the average of farm products to remain at a higher level than was justified by the stocks available, and this in turn fostered an increase of an already excessive production.

But what seems to be the main contributory factor to the depth and duration of the slump is the rigidity of the economic structure. Economists of the liberal school appear to assume that the play of natural forces will bring about such a deflation as is bound, in time, to restore equilibrium. This assumption takes for granted the existence of such freedom of competition, at all stages of the production, manufacture and distribution of goods, as is completely nonexistent to-day.

Falling prices should, in principle, curtail production. We all know that practice differs widely from theory in this respect. As far as agricultural products are concerned, lower prices rather have the opposite effect, as the farmer's only hope of restoring the balance between income and charges lies in increased production. The same situation of which you are by personal experience well aware, is true of many industries, where the imperious necessity of cutting costs results in speeding up output to the limit. The aggregate outcome of such individual efforts is bound to culminate in disaster.

Moreover, the consequences of the steady complication of industrial developments have also been a most important cause of the non-adaptability of the economic structure.

Wages naturally show a great resistance to reductions, but it is only fair to state that in boom times there usually is quite as much resistance to revision in an upwards direction. Besides wages, there is a growing body of additional charges, which, however welcome they may be from the social point of view, undoubtedly constitute a burden on production, and one which, in times of depression, is the heavier that political expediency militates against its reduction. Moreover, long time contracts, interest and debt charges, public utility services and rents, are of such nature that it is exceedingly difficult, if at all possible, to adapt them to changed circumstances.

And last, not least, there is the growing burden of taxation, which, heavy enough in times of prosperity, grows intolerable in a period of depression. Governments, labouring under excessive budgets inflated by enormous debt charges and unavoidable social expenditures, show no mercy on the taxpayer as they have no alternative except bankruptcy.

There are, moreover, active forces in the industrial world itself, which tend to increase its resistance to adaptation, both on a

national and on an international scale. Such are the various pools, cartels, and other Government and private valorization schemes intended to keep up, if not actually to raise, prices of raw as well as of manufactured products. The tendency towards trusts and mergers, so apparent within the last two decades, has been a powerful influence in bringing about organizations, whose size has made possible the existence of such control schemes, indispensable for their own, if not for the general welfare.

Another damaging factor has undoubtedly been the attitude adopted by the various central banks towards debtors. A truly deflationary policy required, at the start, a drastic readjustment of the value of doubtful assets, a liquidation of unsound business, a gouging out of gangrenous portions of the economic tissue, with a view to preserving its healthy parts. One can truly say that an exactly opposite course prevailed. The various central banks concentrated their united efforts towards a goal of easy money, whereas they should, on good security only, quite obviously have discounted freely, but at a high rate. The money which they injected in the circulation, added to that which flowed from other operations, such as the purchase of securities effected in the United States, for instance, under the Federal Reserve Board's open market policy, put a positive barrier in the way of an effective liquidation at the start. Abnormally cheap money, in view of the circumstances, made it possible to carry large stocks of commodities and manufactured articles which should have passed into consumption channels, and which would have done so at lower prices. Governments themselves stepped in the breach to accumulate large stocks of wheat, of cotton, of coffee, and what not, off the market, in a useless effort to arrest an unavoidable liquidation, the postponement of which only tended to make matters worse.

Finally, as a last and most important contributory cause to the persistency and depth of the depression, I would mention the various restrictions on international trade. In past slumps already, Governments had resorted to measures designed to shelter national industries from the increasing pressure of outside competition. The same policy has in the present slump been applied universally, and with a strictness and thoroughness unknown in the past century. Nations, desperately anxious to sell to their neighbours and resorting therefore to every device which ingenuity suggests, fought just as strenuously to shut off foreign products. The net result, of course, was an all-round increase in poverty, reacting on spending power, decreasing purchases and investments, which in turn led to renewed and more imperious demands for a further heightening of already excessive barriers to the free flow of goods.

The necessities inherent to the defence of the currency, in countries where the national policy has resulted in an adaption of economic life to money, rather than in that of money to the needs of economic life, have vastly increased the scope and severity of restraints on trade within the past few years.

THE "MONETARY" THEORY OF THE DEPRESSION.

So far, as you will no doubt have noticed, I have only mentioned such classical causes of the slump as might have accounted for any

depression, albeit with an enumeration of aggravating factors peculiar to the present one. I must, however, to complete the picture, I might even say to paint another one, without which the first would not be accurate, describe the monetary theory of the depression, which certain economists consider as constituting the primary cause of the crisis.

It has now been proved that, whatever the causes of short-term fluctuations in the general price level, long-term fluctuations are directly influenced by the variations in the monetary stock of gold. If gold stocks increased more rapidly than the physical volume of production, prices rose; on the contrary, they declined if the production of other things exceeded the increase in gold stocks. As stated by Irving Fisher: "Abundance and scarcity of goods have never substantially moved the price level (which, please remember, is an average), but inflation and deflation of the circulating medium have, from times immemorial, moved it up and down like a child's skipping-rope."

The supplies of or demand for cotton or wheat will naturally affect their price, but the latter will barely affect the general price level. Each article, individually, will be affected in a similar way, but it would take a truly extraordinary coincidence to affect both supply and demand of *all* articles in such a way as to raise or lower the whole composite figure of the general price level. A price, establishing a relation between goods and gold, would, it stands to reason, be influenced by the supply of and demand for gold as well as by the supply of and demand for goods. And the history of prices confirms this determining influence of money on the general level of prices. Whatever the demand for and supply of goods, it is to-day demonstrated that the composite line representing the average of prices fluctuates in close agreement with the deflation and inflation record of money.

From this it appears that monetary stocks of gold must increase at the same rate as the physical volume of production in order to maintain a stable price level. Now this is precisely what did not happen after the war. Owing to the very fact of the war, the production of goods in the world had increased at an even slower pace than the slowly mounting accumulation of gold stocks, with a corresponding rise in prices. But when, between 1924 and 1928, Sweden, Germany, Great Britain, Belgium, Italy and France returned to the gold standard, a tremendous demand for gold arose, each country being anxious to accumulate large reserves in the hope of building up a very much shaken confidence. The bidding up for gold degenerated into a veritable scramble for the metal, with a correlative collapse of the price level of goods.

This collapse had been predicted many a time by those economists who had paid close attention to this phase of the problem. Professors George F. Warren and Frank A. Pearson, of Cornell University, whose monumental work on "Prices" marks a particularly important forward step in this field, have brought to light a mass of evidence which corroborates their thesis in the strongest possible manner.

"The present depression," they say, "is not an act of God for the purification of men's souls. It is not a business cycle. It is not due to extravagant living. It is not due to unsound business practices. It is not due to over-production. It is not due to too great efficiency. It is not due to lack of confidence, but is the cause of lack of confidence.

"It is due to high demand for gold following a period of low demand for gold.

"It teaches the devastating effects of deflation, but teaches no other lesson that is good for society. The one lesson to be learned from it is that, if we are to have deflation, the miser is the wise man. The modern version of the miser who sells short is even wiser. The man who actively engages in business, producing things that the world needs, is foolish.

"Studies of cost accounts on farms have shown that the best farmers have lost the most. When products are practically unsaleable, the man who used good seed, sprayed or otherwise, cared for his crops, loses more than the man who spent little and did little."

The orthodox school considers money as a passive agent, and holds various extraneous factors as responsible for the lack of balance of the economic structure. According to more recent views, however, currency does play an active part in unbalancing it, and it is through monetary action that the necessary corrections can and must be made.

I am, however, well aware that the question of confining the causes of depression to monetary ones, and that particularly the conclusions from this limitation, are highly controversial subjects among economists. I believe, however, that it is now pretty generally admitted that price changes vary in accordance with changes, relative to the volume of production, in the velocity of circulation and in the means of payment. The latter, when most of the world was on the gold standard, were naturally limited by the amount of gold held in reserve by Governments or banks. Circumstances, arising out of the war or the depression, made it not only inadvisable, but practically impossible for most of the countries on the gold standard to remain on it. Perhaps the reasons for this departure from a traditional and admittedly popular system will appear more clearly when one considers the success it enjoyed in pre-war times.

THE INTERNATIONAL GOLD STANDARD—IN THEORY.

Everybody knows the theory of the gold standard. If a country, say Great Britain, has a net debit balance with another one, say France, its imports from France being more valuable than its exports to that country (invisible items on both sides of the balance being, of course, included) the British demand for French francs to settle the debt will put that currency at a slight premium, which will make it cheaper to ship gold (obtainable without premium from the Bank of England) across the Channel. This gold shipment lowers the cash position of the Bank of England, which thereupon will raise its discount rate, thereby attracting short-term funds drawn by the higher return presently

offered. The bank rate increase also tends to depress stock exchange prices, which leads to more foreign investment. Higher money rates in the debtor country, moreover, tend to cause a fall of commodity prices also, which results in purchases of more goods from Great Britain. Thus, if the flow of money (short-term and permanent investments) from France to Great Britain, corrects the immediate situation, the flow of goods effects a more permanent correction, owing to the internal price level which brings about a remedy to a temporary disequilibrium. Meanwhile, of course, France receiving gold, should lower its bank rate, thereby discouraging short-term funds in search of a remunerative investment; cheaper credit will cause a rise of stock and commodity prices, which will in turn result in a lesser demand for French goods.

It is thus clear that the gold standard, in order to function efficiently, must be predicated on:—

- (1) Free gold movements.
- (2) Bilateral and inverse price changes in the countries concerned.
- (3) Free, or relatively free, exchange of goods.

THE GOLD STANDARD IN PRACTICE, BEFORE THE WAR.

Now, before the war, the gold standard was really managed by Great Britain. It was, in fact, as has often been said, a sterling standard. Sterling bills of exchange were used to finance goods everywhere. International banks paid each other out of their balances in London, which acted as clearing-house and banker to the world. From its large foreign investments, from its banking and shipping services, England derived a favourable balance which she could, had she so desired, annually have drawn in gold. Had she chosen to do so, she would have wrecked the gold standard in no time, but she very wisely re-lent abroad most of her foreign earnings, and discouraged an excessive inflow of gold by promptly lowering her bank rate whenever necessary, and by encouraging foreign borrowing and withdrawals of borrowed money in gold. Contrariwise, if excessive gold shipments threatened to cause an undesirable deflation, she raised her bank rate, discouraged borrowing, and the normal excess of exports soon re-established the balance.

WHY THE GOLD STANDARD BROKE DOWN.

It is very clear that, as the Macmillan Report pointed out, creditor countries must be prepared to re-lend their surplus, instead of taking it in gold; and they must, besides, be willing to buy abroad, or else they will gradually attract all available gold stocks of debtor countries. A creditor country on the gold standard cannot at the same time be a protectionist country, under penalty of disrupting the whole economic system.

When, after the unsettled inflationary period extending from 1919 to 1925, nations decided to return to gold, because they were hoping to find, in it, the security which it had given them in the past, they failed to realize that the conditions which had insured its smooth working were no longer in existence.

The United States had taken England's place as the main creditor country, and America's past experience in the international banking field was altogether different from Britain's. Internal considerations always had been, and were for a long time bound to be, America's dominant care. Prohibitive protectionist tariffs were raised against foreign goods' imports, which therefore compelled debtors to settle in gold. This additional gold, moreover, was for fear of an excessive inflationary tendency on prices, not used as a basis for expanding the credit structure. The primary American consideration, that of price stability, was in flat opposition with the necessary consequences of international goods movements. Debtor countries were deflating, but America was not inflating correspondingly. The only possible corrective to this one-sided situation was free foreign lending, to which America readily, sometimes too readily, agreed, until such time, say 1927 or 1928, as she began worrying about some of her unwise investments. Then came a practically complete cessation of foreign lending.

France's somewhat similar policy had about the same results. High tariffs, insistence on gold payments against foreign debit balances, refusal to offset these imports of gold by granting credits abroad, led to the accumulation of large—and mostly sterile—gold stocks. Gold movements, instead of being allowed to act, as had mostly been the case before the war, as a corrective influence on temporary disturbances of international balances, were on the contrary desired to cancel any tendency they might have exerted on the level of prices, with disastrous results to the general equilibrium. Attempts at internal price stabilization through variations in the rediscount rate were, of course, in flat contradiction with the pre-war policy of allowing gold shipments to exercise their influence on prices. The gold standard, thus practised, had become a very much managed standard.

Debtor nations, in a desperate effort to defend their melting gold reserves and to guard their internal trade against the ill effects of a deflation which was consequential upon steady gold exports, started raising their tariffs, or resorted to exchange restrictions, timid at first, then increasingly strict. Creditor nations, on the other hand, put up their own customs duties, to ward off the menace of foreign goods, which deflation made increasingly cheaper. The result, as you know, was the breaking down of international trade, which the gold standard aimed precisely at protecting and fostering.

Rigorous measures of all kinds, which in effect led to a gradual destruction of international trade, were of no use to debtor countries: they continued to lose gold, mostly to France and to the United States.

From these circumstances, Great Britain suffered in a specially severe manner, since she was labouring under the handicap of an over-valued pound. The raising of the bank rate, the indirect help given by the Federal Reserve Board, which kept its rate purposely low in a vain effort to discourage British gold exports to America, were of no avail. Gold, in the course of the summer of 1931, left London at an increasingly rapid pace, until, its reserves all but drained, England dramatically abandoned the gold standard, on September 21, 1931.

The story of what happened afterwards is still vivid in every memory. Some forty-seven countries followed suit, and America, after a harrowing experience in which she suffered acutely from the effects of deflation carried beyond the limits of endurance, in turn gave up the gold standard, which had become an intolerably heavy burden, on April 20, 1933.

In fact, the abandonment of the gold standard by Great Britain put an end to the international monetary system. It was difficult, not to say impossible, for an international system to survive in a world where economic nationalism was daily increasing in strength.

THE SITUATION TO-DAY: TWO INTERPRETATIONS OF "STABLE MONEY."

The world, to-day, is confronted with a variety of monetary groups, of which at this writing the largest, of course, are the sterling, the dollar and the gold currencies group. Sterling is not tied to gold; the dollar is, but in a somewhat loose manner, revocable at will by the American Executive; the gold countries have naturally linked their money with gold, and profess to play the classical gold standard game, although with the exception of more or less ready convertibility of currency into gold and vice versa (and even this is subject to certain practical restrictions), they really manage their standard to a very considerable degree.

The great debate between the adherents of a "fixed" monetary standard and those of a managed one centres about currency stability. The quarrel, however, is not one of words. Both sides want a stable and sound money. But they both interpret the same words in a widely different sense. As a matter of fact, there cannot be any such thing as an absolutely sound money, for there is none which will absolutely guarantee both external exchange stability and internal price stability.

Stable money, for those holding orthodox views, means a currency equivalent to a definite weight of gold, which constitutes a common and supposedly invariable measure of international transactions.

Stable money, for those of the more modern school, means a currency endowed with a fairly constant purchasing power. Gold, they aver, is by no means stable in value, and linking one's currency with it means subjecting the internal price level to catastrophic variations.

The gold standard, as we have seen, compels changes in the internal price level, for the sake of maintaining an international parity which is stable within extremely narrow limits, the export and import gold points. But variations in the price level, if they are appreciable, naturally also entail changes in the relative financial position of everyone; and profits are reaped, and losses suffered, accordingly. Minor movements are sometimes hardly noticed, but wide upward swings in periods of boom, and more so, devastating crashes in a period of extreme deflation like the present one, are bound to work havoc all around and to dislocate the whole economic structure.

The gold standard, which is not, I would like to remind, an automatic and sort of "fool-proof" system, but which has always required a certain amount of management, imposed on central banks as their permanent duty the maintenance of currency parity with gold. Wherever they attempted to reconcile this task with a desire to stabilize the internal price level, they were trying to achieve the impossible, and their efforts were bound to fail and did in fact break down completely.

But the gold standard, provided it were managed according to the rules of the game, provided an unrivalled measure of exchange for goods in the international trade. It eliminated uncertainty in connection with the future worth of foreign currencies, thereby permitting the placing of long-term contracts and, what is probably just as important, bringing about a degree of confidence without which international investment, upon which depends the development of progress in many parts of the world, could not exist.

One who regards international trade and investment, which rests to a considerable extent on stability of exchanges, as relatively more important than stability of internal price level, will necessarily consider that no standard can possibly compare with a gold standard; and vice versa. Indeed, there are those, such as Keynes, who have plausibly argued that even in the case of countries, depending to a considerable degree on foreign trade and investments, internal stability was the more desirable aim.

MONEY CANNOT BE STABLE BOTH INTERNALLY AND EXTERNALLY.

Anyway, these two most important requirements: foreign exchange steadiness and internal price stability, are incompatible. The necessity of keeping fixed rates of exchange forces all adjustments of the economic body to take place in the internal structure of such countries as decide to adhere to the gold standard. But the very intensity of the depression has given rise to a series of measures intended to relieve the resultant strain on the domestic situation, measures which are unavoidably directed against international co-operation and welfare. And the larger problem, if one considers the world of to-day, is not when and on what terms it would be advisable to return to an international currency standard, but whether we should return to it at all. One thing is very certain, and that is that, while most if not all nations profess a desire to adopt some such standard in the more or less immediate future, they have, with practically no exception, constantly acted in a way, the practical effect of which meant exactly the opposite. So it has always been with taxes and customs barriers, which every nation has intended to lower, but which every one has in fact unceasingly raised despite solemn and repeated public declarations.

"In sacrificing stability of internal prices to stability of the external exchanges—wrote Sir Basil Blackett in "Planned Money"—and in ignoring the economic and financial independence of the units of which the world is made up, the attempt to treat it as a financial unit capable of using to advantage a single monetary standard has been the direct cause of economic friction between the nations. . . . 'This high man, aiming at a million, misses a

unit.' . . . For the gold standard yokes together in an uncomfortable partnership individual economic units of which the pace and direction of development are dissimilar and divergent. Just because they feel themselves hampered by the financial tie, the nations are driven, in defence of their right, to decide the course of their own national life, to adopt economic expedients, such as high protective tariffs, prohibitions, currency and exchange restrictions, transfer moratoria, and such like, which play havoc with all forms of international intercourse. With their prices tied to the chariot wheels of gold, stability in their internal trading and productive activities is beyond their reach, and the absence of assured stability at home makes them set up barriers against the external world and minimizes the extent of the contributions they can make to world interchanges."

The indisputable advantages of an international standard have, as their counterpart, very serious defects, for it imposes uniform rules of conduct on a variety of countries which enjoy very different conditions of economic development, which may be debtors or creditors, heavily engaged in international trade or mostly restricted to local business; they may be rural or industrial, hence possess a very different flexibility of price structure. The application of similar rules to dissimilar situations has brought into existence a variety of measures intended to lift the growing burden of misapplied pressure; and these measures have invariably resulted in a further shrinkage of international trade, so that a standard designed to foster commercial intercourse between the nations of the world has had the paradoxical result of contracting it.

FUTURE PROSPECTS.

That the present monetary situation of the world is unsatisfactory and provisional seems very clear. No single solution of the problem is possible, however, as long as exist such fundamental differences in the conceptions of monetary stability, as appeared at the London Economic Conference.

Theoretically, there is nothing which would prevent the present leading monetary groups from continuing to practise their respective policies of money management with a view to maintaining price stability on one hand, and to upholding exchange stability on the other, provided deflation be carried far enough, in the gold countries, to restore equilibrium in the cost-price relations, and in their general price structure as compared with that of the balance of the world.

An international currency could, of course, come into existence if one nation created or possessed a monetary system endowed with such qualities of stability, in both senses, as would inspire world confidence. Such unanimity in trust, however, does not exist to-day. What, then, of the future?

MERITS AND DEMERITS OF AN INTERNATIONAL PAPER STANDARD.

In theory, and I might even venture say to in practice, a paper currency could very well exist without any gold backing at all. If it is legal tender it will circulate freely, and it will very likely not even depreciate internally if the country's Government inspires

confidence, if it balances its budget and does not resort to the printing press. But such a currency will of necessity impose very strict limitations on foreign trade, an admittedly unfavourable result

An inconvertible paper money has, of course, an indeterminate gold value, and its purchasing power may be exactly what it is wished that it should be. In other words, the price level, in a country where a managed paper currency circulates, can practically be what it has been decided that it should be. There is evidently no particular price level which, of itself, is better or worse than any other one. If it is to be at all satisfactory, it should merely allow a balanced adjustment between costs and prices.

Serious doubts have been cast on the practical possibility of managing an inconvertible paper currency. These doubts are unfounded. Even the paper notes of gold countries have, except in abnormal circumstances, a metal backing for only a part of their circulation; the balance of the issue is secured by the Government's credit. An irredeemable paper currency would rest solely on the Government's credit. This has been tried innumerable times, and often with a good deal of success. Great Britain has very ably managed her currency from 1797 to 1821, again from 1914 to 1925, and, of course, once more from 1931 onwards. None of these periods have been characterized by any of the inflationary excesses which are in such cases generally thought to be unavoidable and fatal. Australia's recent example is also worth noticing, and Sweden's experience is particularly illuminating, despite what has been said against it. There has, as is well known, been a great deal more internal price stability in the so-called paper countries generally than in the gold countries.

The distrust in paper currencies usually arises from their association with trying times, such as war or after-war periods, when Governments are completely bankrupt, which compels them to resort to inflation, with all of its attending evils. And paper money is, in the popular eyes, called to account for unfortunate circumstances, the responsibility for which lies elsewhere. A managed paper currency can, of course, be kept stable in an international way, if the foreign exchange market and trade movements are kept strictly in hand. A powerful Exchange Equalization Fund surely would have the same stabilizing effects, although it is doubtful if it could, in the long run, successfully counter any strong one-sided tendency originating in a permanent and fundamental cause of disequilibrium.

An uncontrolled paper currency, however, has very great advantages over one which is artificially held in check. It is bound to find its true level soon, and it will stay there because any sharp fluctuation will immediately react on imports and exports, and will thus be self-corrective. It naturally takes financial skill to manipulate a paper currency successfully, and the possibility that such skill may be lacking is sometimes advanced as an argument against the system. It should, however, be remembered that manipulation of the credit currency, to keep prices stable, is no more difficult than doing the same thing, under a gold system, to keep foreign exchanges steady. It simply means having a different aim in view; the process is identical.

Whatever the merits of an international paper currency and its possibly bright future prospect, it is necessary to take into consideration the lack of financial understanding of an overwhelming majority of the people. To quote Sir Josiah Stamp: "We are in the stone-age of economic thinking." For psychological reasons, therefore, if for no others, it would seem necessary that there be a metallic backing to currency, even though this connection with gold and/or silver be considerably less rigid than was the case under the gold standard.

A MANAGED CURRENCY, LINKED WITH GOLD.

Professor Irving Fisher, of Yale University, who has for over twenty years been a staunch advocate of stable money (stable, of course, in the sense of having a more or less constant purchasing power), has offered a very detailed plan for managing a currency with a view to stabilizing its value. This plan, which at first was hailed as radical, and is no doubt still considered such by many people to-day, is in fact most conservative, as it links currency to gold, whereas Sweden's successful practical currency management is quite independent from gold. Professor Fisher proposes that the currency (the dollar, in this particular case) cease to be a constant weight of gold with a variable purchasing power, but become a variable weight of gold with as near a constant purchasing power as possible. It is, as Professor Warren says, "like substituting a fixed yard for measuring length, instead of using the distance from the King's nose to the end of his thumb." The system provides for convertibility of paper into gold, but the amount of gold exchangeable for a fixed amount of currency would vary with the price level. The law might, of course, specify the commodities which would serve as a basis for establishing the price level index and a commission would very likely be appointed for the purpose of calculating the latter at regular intervals. Professor Fisher's compensated dollar would of course not eliminate business cycles altogether, but it would mitigate their worst and most dangerous exaggerations. Excessive gold shipments would not result in deflation so severe as to cause a collapse of prices with widespread unemployment and bankruptcy. Conversely, excessive importations of gold would merely result in making it cheap, as would those of any other commodity available in large quantities; no price inflation would ensue, as was the case under the gold standard.

John Maynard Keynes, in his "Monetary Reform," has put forward a somewhat similar plan, providing for the purchase and sale of gold, at variable prices, by the central bank. The latter would, at its discretion, change its buying and selling rate for gold just as it would—and to-day does—regulate the discount rate. Mr. Keynes assumes that the Bank of England could be trusted to be sufficiently free from political interference and spirit of lucre to manage the currency successfully, and in the sole interests of the public. The official index number, registering the price of a standard composite commodity, would have to be kept as nearly stable as possible. Gold, of course, would be withdrawn from circulation, and I may add that its daily use for monetary purposes

seems in any case bound to join other relics of the past, and to become a mere object of historical interest.

There is no doubt but that some such monetary system as is advocated by Professor Fisher or Mr. Keynes has considerable advantages. It links currency to gold, which, considering the faith which an overwhelming majority of the people show in gold, is the most desirable, I should even say the most necessary requirement, at the present stage of economic development. And it removes, from the classical gold standard, a terrible handicap from which it has had to suffer to the point of breakdown.

My personal preference goes to some such plan. It would mean a considerable improvement over the old gold standard, which, it is generally agreed, cannot be brought into operation again, unless it undergoes far-reaching changes. Indeed, a return to the pre-war standard can be ruled out entirely. It is an anachronism which has never functioned properly since the war, and which could not so function in the altered circumstances arising from the war. Whatever the standard adopted, it will have to be managed, and it is by no means impossible that a greatly reformed gold standard, internationally managed with the help and co-operation of the great central banks, will eventually be found which will combine the advantages of comparative internal price stability with international exchange stability.

AN INTERNATIONAL GOLD STANDARD. A RETURN TO IT CONDITIONAL UPON IMPORTANT MODIFICATIONS.

The following conditions appear to be indispensable if an international gold standard is to be re-established and if it is to work satisfactorily:—

First and foremost, economic equilibrium must be restored in each individual country; that is, cost factors and selling prices must be balanced. Off-gold countries seem to have recovered this equilibrium to a considerable extent. Gold countries, on the other hand, still strive hard to achieve the same result through deflationary measures aimed at lowering costs. A discussion of this method would go beyond the scope as well as the purpose of the present paper. It is enough to realize that there is no divergence of views as regards the purpose to be reached, or its desirability, even though there be lack of agreement as to the best way of reaching it.

Secondly, each country having chosen the price level which is best suited to its particular economy, exchange rates should be established in such a way as to be brought in line with the price system under which conditions are found to be balanced.

Thirdly, a reasonable degree of international freedom in intercourse must be re-established. The more drastic obstacles to the circulation of merchandise, of capital and of persons, must be removed. Goods, quotas, and exchange restrictions particularly, should be abolished. They are, as a matter of fact, largely results of an existing disequilibrium between costs and prices, debts and incomes, and the need for them will for the most part disappear when these relations are once more brought into balance. Certainly there is no international standard of any kind which can function satisfactorily if such trade barriers as now exist are not done away with or lowered considerably.

Fourthly, the reparations and debts question should be settled definitely. This point needs no elaboration. It is clear that large transfers of uneconomic payments cannot, in practice, be made without damaging the whole financial structure of the world. This part of the problem, we may rest assured, will be settled by time, if not by men's reason and goodwill. But an honourable settlement, freely accepted all around, would go a long way towards restoring confidence.

Fifthly, there should be a definite agreement between the world's largest central banks to co-operate with a view to managing the gold standard in such a way as to avoid the violent fluctuations in the purchasing power of gold which we have witnessed these past ten or fifteen years, and more particularly since 1930. In other words, the ninth resolution of the 1922 Geneva Conference should be put into effect. It recognized that the gold standard's "successful maintenance would be materially promoted, not only by the proposed collaboration of central banks, but by an international convention to be adopted at a suitable time. The purpose of the convention would be to centralize and to co-ordinate the demand for gold, and so to avoid those wide fluctuations in the purchasing power of gold, which might otherwise result from the simultaneous and competitive efforts of a number of countries to secure metallic reserves. . . ."

This brings, as the sixth requirement, that of adequate gold reserves. Measures ought to be agreed upon by the various central banks with a view to insuring protection against an eventual gold shortage in the future. The seemingly happy expedient of the gold exchange standard, whereby banks were permitted to hold as reserves against their debts, not only gold but currency of another gold country, thereby saving gold to the extent that the same amount of it served to back the notes of the country storing it, plus those of the country holding the notes of the first, turned out rather less felicitously than it had been anticipated. Requirements concerning legal reserves will undoubtedly have to undergo considerable changes. Moreover, as economists such as Delaisi in France and Strakosch in Great Britain have pointed out, present gold stocks are ample, and will remain adequate for a long time to come, if the last of the gold countries were to decide to follow their predecessors and increase the monetary value of their gold stocks by revaluating their currencies.

Inasmuch as it is not probable that, at the present stage of economic knowledge, international agreement can be secured to adopt a money standard independent from gold, the better way would seem to lie towards a return to gold. I personally believe, as I have said above, that a compensated monetary system linked to gold in an adjustable way would prove the most favourable system from the domestic point of view of all countries concerned, while it would not result in exchange fluctuations of much practical importance, provided the internal economy of each nation be well balanced.

If this system is not adopted, an internationally managed and considerably modified gold standard should be put in operation, and probably will be, in preference to the establishment of a series of local and autonomous systems.

NECESSITY OF WORLD CO-OPERATION.

But to return to the gold standard prematurely, for the sake of itself and of virtues which it is supposed to have but which in its present status it possesses in no degree, to adopt it once again universally without insisting on the *sine qua non* conditions precedent to its satisfactory functioning, would be a mistake for which heavy penalties would most certainly be exacted later.

It is useless to be blind to the fact that these conditions cannot be realized unless the various nations decide to show, in actual practice, a degree of co-operation which they have so far only exhibited in platonic declarations. There is so much at stake, for all concerned, that, in a world where progress undoubtedly lies along the path of international understanding, any other solution would appear to be, and really would be, illogical and unintelligent. It is inconceivable that, when each nation shall have attended to the primary and self-evident duty of setting its own house in order, they should not all be able to agree on a common measure of monetary stability, which will at long last herald the dawn of a return to world prosperity.

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Causes of the Crisis in the Cotton Industry and Suggested Remedies

Report prepared for the International Cotton Congress, 1935, in Rome, by General Director OTTO BANKWITZ, Vienna.

TWO years have passed since I had the honour of speaking on this subject at the International Cotton Congress in Prague.

For the benefit of those who are not acquainted with the figures I gave at that time, I will repeat them in brief:—

(1) The chief cause of the crisis is the irremediable transfer of the industry from Europe and America to Asia and Africa during the last two decades, illustrated by the following comparative figures then quoted:—

Number of Spindles :		1913	1932	
Europe	.. ..	99,505,000	101,442,000	Spindles
Asia	.. ..	9,084,000	21,395,000	"
America	.. ..	34,260,000	38,403,000	"
Consumption of Cotton :				
Europe	.. ..	12,082,000	8,672,000	Bales
Asia	.. ..	4,065,000	7,723,000	"
America	.. ..	6,565,000	5,667,000	"

The rising level of Asiatic consumption (+3,658,000 bales) is concurrent with the falling level of European consumption (−3,510,000 bales).

(2) A further cause lies in uncontrolled production—but chiefly in the double-shift working—of the cotton spinning mills.

As a remedy I demanded that first of all each country should be organized in the detailed manner I described, with a view to the next step—European organization.

To-day I wish to confine my remarks to the Congress to a brief retrospect covering the years 1932-1934.

Consumption of cotton has increased during the last two years by 2.6 million bales, which, however, have not been fully consumed, as mill stocks have increased during the same period by 0.9 million bales.

On examination of the extra consumption of the various countries we find:—

Great Britain	..	+ 100,000	Bales	Japan	..	..	+ 500,000	Bales
Germany	..	+ 330,000	"	China	..	..	+ 130,000	"
France	..	+ 150,000	"	U.S.A.	..	..	+ 800,000	"
Russia	..	+ 360,000	"	Canada	}	..	+ 60,000	"
Poland	..	+ 80,000	"	Mexico		..	+ 70,000	"
Jugo Slavia	..	+ 33,000	"	Brazil	..	..	+ 120,000	"
				Sundries	..	..		"

These figures reveal clearly the growing displacement to the disadvantage of Europe, in favour of Russia, Asia, and America.

Spindles. The number of spindles has decreased in Europe by 5.3 million and has increased in Asia by 2.0 million.

The spindleage decrease in Europe is almost wholly accounted for by Great Britain's 6,000,000 decrease, while Jugo Slavia, on the other hand, appears for the first time with 158,000 new spindles. Displacement as between European countries has continued, but the changes are only slight, in comparison with the diversion of the industry to countries outside Europe.

Two years ago a few people considered my remarks too pessimistic, but they will have to admit to-day that my fears, unfortunately, were only too justified. To-day I should be happy to acknowledge that I was over-pessimistic, but the present situation emboldens me to repeat my warnings—although late—that there is still time for the application of the remedy.

We must abandon any idea of remedy by the increasing of exports.

I will demonstrate this by two comparisons:—

EXPORT OF COTTON GOODS

(in Millions of Square Yards)

	1931	1932	1933	1934
Japan	1,414	2,032	2,090	2,577
England	—	2,189	2,031	1,935
Italy	—	340	290	226
France	—	342	380	346
Holland	—	119	77	90
Czecho-Slovakia ..	—	103	71	62
Germany	—	80	73	69
Switzerland	—	30	27	27

In 1932 England was still at the head, but now Japan is predominant. Japan has surpassed not only England, but the whole of the chief European producing countries, for in the short space of two years, Japanese exports have increased by 540,000,000 square yards, while European exports have decreased by 450,000,000 square yards. That is not surprising. Depreciation of the yen has reduced the level of Japanese wages, instanced in my comparison two years ago, by almost half.

The following statistics, in which the English example is most illuminating, show that in spite of currency depreciation, export is barely increasing and cannot in any case be profitable:—

ENGLAND'S EXPORT OF COTTON GOODS

(according to the "International Cotton Bulletin")

1913 ..	7,075,252,000 linear yds. =	97.8 Million Gold	Sterling
1914 ..	5,735,854,700 " "	= 79.2 " "	" "
1916 ..	5,255,503,900 " "	= 88.8 " "	" "
1918 ..	3,695,772,100 " "	= 138.5 " "	" "
1920 ..	4,760,000,000 " "	= 315.7 " "	" "
1922 ..	4,312,667,000 " "	= 142.4 " "	" "
1924 ..	4,585,096,000 " "	= 153.5 " "	" "
1926 ..	3,922,796,000 " "	= 116.1 " "	" "
1928 ..	3,968,198,000 " "	= 107.3 " "	" "
1930 ..	2,490,549,000 " "	= 61.3 " "	" "

Converted :

1931 ..	1,790,157,000 " "	= 37.3 Million £ Stg.	= 34.8 Mil. Gold Stg.
1932 ..	2,302,612,500 " "	= 43.6 " "	= 31.4 " "
1933 ..	2,116,479,000 " "	= 40.2 " "	= 27.0 " "
1934 ..	2,067,471,000 " "	= 39.8 " "	= 23.0 " "

These are not inspiring statistics; they show that the world war gave the first impulse to the decline in England's exports. The years 1920-24 show a revival, maintained as regards quantity during 1926-28—then follows the collapse. But as regards export prices, the struggle has been going on since 1920. *The last phase was begun in 1928, and in 1931 the pound was depreciated.* But whoever believes that the increase in the year 1932 was due to the devaluation of the pound is mistaken. For of the increase of 500,000,000 yards, 400,000,000 yards were accounted for by exports to countries of the British Empire. It was therefore not due to currency manipulation, but to customs preferences (Ottawa). We must bear in mind, however, that the price of cotton in gold cents has remained fairly constant on the whole from the year 1931 to 1934, when we consider that England (the price of cotton having remained the same) obtained in the year 1931 4.7 gold pence per linear yard, but in the year 1934 only 2.7 gold pence per linear yard. Thus England is obtaining for her work scarcely half as much. Export has become unprofitable. *Export has become a source of loss.* We simply cannot adhere to the prices dictated by Japan . . . *all the more reason for us in Europe to see to it that we have controlled production; . . . all the more reason for carrying out the internal organization of the spinning industry in the individual European countries, as I advocated at the last Congress.*

But the progress recorded during the last two years in this direction is not satisfactory.

We have made practically no advance in the development of the organizations which were already in existence in 1933. Only the so-called Polish and the Austrian Spinners' Cartels are still functioning, and even if they have not profited the spinning mills of these countries, the mills have avoided losses which their colleagues in the other countries have suffered. In Czecho-Slovakia the Spinners' Cartel has also functioned quite well during the last two years. Unfortunately, it broke up a few weeks ago, but an attempt is being made to re-establish it as soon as possible, because the price conflict of the last eight weeks is costing the Czecho-Slovakian spinners about 15,000,000 crowns. But as regards England, France, Belgium, Holland and several other countries, it has not up to the present been reported that the negotiations which have been proceeding have been completely successful, with the exception of Germany and Italy, where arrangements under the initiative of the State have been instituted.

But not the slightest sign of European co-operation is yet to be seen.

Why have the cotton mills in various countries not established internal order? Is not business bad enough with them? Or do they prefer to wait until they are brought to order by State action?

The selfishness so often practised by individual firms ought to disappear in the face of the most serious problems by which the whole of Europe has been confronted during recent years. Individual firms have experienced what may prove to be the

destroyers of their industry and of their economic system. Countries must have healthy industries if they wish to solve the serious problems of the present day—and therefore it is to be expected that wherever an industry is unable to establish order itself this must be accomplished by State action. Is it really not more desirable that spinners should not leave this work to Government officials, but carry it out themselves?

If you will act in the spirit of my remarks at the last Congress, and create in all the European countries organizations to distribute in a fair manner the demand of the country among the individual spinning mills, if a reliable control of production is established to adapt the production to the country's requirements; and if you take the further step advocated by me—to create the *Convention of European Spinners*—then you will see that the crisis in Europe has been overcome.

The solution of the crisis lies to-day solely in systematic organization.



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The French Cotton Industry and the Question of Regulating Production by Trade Agreements.

Paper presented by the SYNDICAT GENERAL de l'INDUSTRIE COTONNIÈRE FRANÇAISE to the International Cotton Congress, Milan-Rome, 1935.

THE question of regulating production in the cotton industry by trade agreements is not a new one in France. Even before the War it had been investigated very thoroughly and had, in fact, given rise to attempts at local agreements invariably short-lived, however. Immediately after peace had been established, this problem, already old, seemed destined to take on a new lease of topical interest: well might one ask oneself the question whether industry could—without some concerted check on its productions—cope with the big increase in plant resulting from the return of Alsace to the mother-country. However, it may be said that up to 1934, the question of agreements in the Cotton industry had not advanced by a single step; occasionally raised in Federation meetings, it met with the attitude of indifference or scepticism adopted towards schemes which are impracticable and vain. In the eyes of many, planned production in the French cotton industry seemed neither within the possibilities of this branch of industry, nor to meet any pressing need.

The difficulties in carrying out such a scheme appeared in fact, morally and technically, almost insuperable. It is not by mere chance that no important and lasting agreement was achieved by the French cotton industry, whether by way of planned production, or by elimination of surplus plant, or by controlled prices. The spinning and weaving concerns are so numerous (600 to 700); their production is divided into so varied a range of articles; the mentality of the cotton trade industrialists is so imbued with individualism due to long tradition in carrying on their family concerns, that any scheme of this kind has invariably proved particularly difficult to carry into effect. Finally one must not overlook the obstacle confronting any solution of the problem of production as a whole, arising from the geographical distribution of the French cotton industry over a certain number of regions (Nord, Normandy, Vosges, Alsace, Central France) occasionally competing the one against the other and inspired by traditions or interests sometimes divergent in character.

On the other hand, it cannot be denied that during the 10 or

12 years immediately subsequent to the War, the risk of overproduction continued to appear theoretical and remote. The progressive depreciation of the franc and, in respect of the German market, the exemption from German customs duties of the products of Alsace-Lorraine, as provided by Article 68 of the Peace Treaty, gave a fairly wide opening for French yarns and cotton fabrics in foreign markets. Even after the actual stabilization of the French currency (1926) and the settlement of high customs duties on our cotton importations into Germany (October, 1925) the activity to full capacity of the French colonial markets helped, for still a further period, in balancing production and consumption.

If, since 1930 or, more correctly, in 1934, the problem of collective control of production impressed itself on the thoughts of the cotton industrialists, despite their objections in the past, it was because they were confronted with quite a different situation economically and, in the case of more than a few of them, with an entirely new state of mind.

Still prosperous in 1929, the French cotton industry had, in fact, reached an acute state of crisis early in 1934: a crisis of markets, a crisis of prices. From 1929 to 1933, exports of cotton piece goods abroad had fallen by 72 per cent.; exports to the Colonies, showing much greater resistance had, however, declined by 14 per cent. In the matter of price, if the item raw materials were deducted, it was already noticeable that, for certain articles of current consumption, the margin intended to cover general expenses, wages, manufacturing costs, interest on capital, depreciation and profit, had diminished in respect of yarn by 44 per cent. and in respect of piece goods by 48 per cent. Moreover, this combination of circumstances constituted a brutal overthrow which was mirrored, not only in the decline of industrial activity which had fallen early in 1932 to 55 per cent. of the normal level and after a transitory improvement in 1933 had re-assumed in 1934, a rapid downward movement but also in the increasing number of firms, more or less in financial difficulties (approximately 20 per cent. of spindles and 15 per cent. of looms early in 1934). Finally the gravity of this movement was emphasized by the semi-permanent character of certain of its causes: if this collapse in markets were, in part, attributable to the world-wide economic crisis and to the resultant barriers of a tariff or monetary nature, it was none the less and to a wide extent, consequent upon certain new factors destined to exercise their effect for a long time, on the market for cotton goods; the replacement of heavy fabrics in women's underwear by light fabrics and the simplicity ordained by fashion in the same articles: the competition of artificial silk which, more and more, is replacing cotton yarns in numerous sections (hosiery, silk industry, etc.); the rapid progress of the cotton industry by the big countries in the Far East (Japan, China, India); the rapid strides of the making-up industry in numerous foreign countries. Faced with such a situation, well might one be absorbed by the problem created by the increase in productive capacity of the French cotton mills since the War, an increase which not only resulted in the augmentation of the number of productive units (33.6 per cent. increase in

spindles¹, 40.6 per cent. in looms², 121 per cent. in printing machines³), but also of quite a series of equivalent factors (mechanical improvements—organization of double-shift working in certain enterprises—rationalization measures increasing the output of the operative). In short, even assuming the favourable event of a revival of business, it appeared that the French cotton trade must base—when working to full productive capacity—on a permanent surplus of production not calculated to be absorbed, amounting, according to some opinions, to 20 per cent. of the production.

Concurrently with this formidable aggravation of the industrial situation, the opinion of an appreciable proportion—and one which was growing constantly—of French cotton industry circles was directing its energies in an entirely new trend. Faced with a critical diminution of markets, to an extent not previously experienced, many industrialists suddenly discovered the permanent causes which had for long, been concealed from their view by the years of ease. They noted, furthermore the inadequacy of the various measures attempted by their local Federations during the years 1930-1934⁴ and in particular, the inadequacy of the attempts at concerted short-time working, the said measures being void of penalties, belated, constantly outstripped by the progress made by the crisis by reason of the laborious tardiness with which the necessary percentages of votes was obtained, the measures being incoherent because all too often executed "in extended order" either by the various districts affected, or within a given district by the spinning section and the weaving sections, measures which consequently were often too ineffective to furnish clear justification to all concerned for the burdens they imposed on cost prices. Impressed at last by the efforts at trade organization attempted or achieved in the cotton industries abroad and to which resounding attention has been drawn by the International Cotton Congress at Prague (1933) but convinced by the experience of the past that the French cotton industry was suffering from an impotence, to some extent congenital, to carry through an effort of like nature on its own initiative, they turned more and more towards the idea of authoritative intervention by the State, compelling the dis-

¹ Of which 23.6 per cent. due to the return of Alsace to France.

² Of which 27.1 per cent. due to the return of Alsace.

³ Entirely due to the return of Alsace.

⁴ The measures adopted were principally as follows:—Flotation in the Vosges under the auspices of the Syndicat Cotonnière de l'Est, of companies with insignificant capital for the purchase and ultimate scrapping of plant belonging to insolvent firms; planned production of fine count yarns under the supervision of the Syndicat des Filateurs and Retordeurs de Coton de Lille (Federation of Cotton Spinners and Doublers at Lille) and the Syndicat des Filateurs de Jumel des régions de l'Est (Egyptian Cotton Spinners' Federation for the Eastern provinces); agreements in March, 1934, between weavers of the Roanne district for the regulation of their production and the purchase of plant offered for sale; finally, in February, 1934, planned reductions in production initiated by the Federation of Cotton Spinners in Roubaix-Tourcoing (Syndicat des Filateurs de Coton de Roubaix-Tourcoing) and by the Federation of Spinners in Normandy (Syndicat des Filateurs Normands), the said reductions being followed almost immediately by similar measures in the three cotton districts of Eastern France: Vosges, Alsace, Belfort.

sentients to bend before the common law of agreements accepted by the majority of the industrialists. It was in reality this tendency, or rather the resultant reaction, which was to engage the French cotton industry in the most serious and the most sustained effort towards control which had been attempted since the War. Doubtless the partisans of Government intervention came forward at the outset without any definite scheme either by way of trade agreement or State control, but, however, on the advent of the spring of 1934, a motion submitted to the Committee of Management of the General Cotton Federation (Syndicat Général Cotonnier) by the representatives of the industry in Alsace, raised distinctly the question of principle; intervention or freedom. A definite attitude had to be taken.

The problem was a formidable one. On the one hand the risk of concerns ever growing in number being doomed to complete ruin so long as no trade agreement should be reached, without noteworthy opposition, to set the house in order. On the other hand, the obvious risks of appeal to public authority; not only the moral risk of an industry which confesses its impotence completely to administer its own branch of production but the very positive risk of counter measures of a social or other nature, to which the industry would be exposed, in having claims made upon it by the public authorities in exchange for their intervention and more from considerations of electoral reactions from an economic point of view; would not one thus be inevitably caught in the toils which would socialize more and more the administration of the industry?

The question thus raised was decided (June, 1934) by the Management Committee of the Syndicat Général Cotonnier who elected for freedom conditional upon an attempt to regulate production being energetically undertaken with the firm intention of carrying it through, this time, to a successful conclusion. In short, the apprehension caused by the increasing movement in favour of intervention by the State had decided the big majority of industrialists resolutely to tackle, in a spirit of practical realization, a problem hitherto deemed by them to be insoluble. The spontaneous regulation of the production of the cotton industry by the industrialists themselves appeared henceforward, not only as a measure economically necessary but as the salvation of the freedom of the industry.

It was immediately manifest that the first point to be tackled was the controlling of the production of the spinning industry. It was in this section that the problem was most urgent, by reason of the more accentuated collapse of the prices of yarns¹. It was this section also which offered a greater chance of success by reason

	End of December, 1929	End of June, 1934	Per cent. reduction in 1934 as com- pared with 1929
Twist 28's unbleached per kilo (excluding raw material and waste)	5.57	2.38	57.2
Calico $\frac{1}{2}$ 20 cm. + 20 cm. per metre (excluding raw material and waste)	1.195	0.652	45.4

of a slightly greater concentration of the concerns and especially by a nearer approach to mass production, at least as regards the American spinning section, than the weaving branch, but on the other hand, a fundamental divergence of views made itself manifest as between different areas, particularly between Normandy and the Eastern Provinces when the point was reached by formulating a provincial or national basis for the projected organization.

The partisans of the National organization pointed out the inter-dependence of the manufacturers of the various provinces and the impossibility of relinquishing to any one spinning district, the possibility of working to full productive capacity, whilst other districts would undertake rigorously a self-imposed attempt at short-time working. In view of the provincial organization, it was emphasized that on the contrary, the different French cotton spinning areas were characterized, not only by different manufactures but by different commercial markets and that consequently it was not possible to conceive the support of the industrialists for any regulation of production, in respect of which the regulations and directions would be settled outside the area. This discussion led to the adoption of a formula in the nature of a compromise; the agreements to be effected would be settled each in its own area, one in the east of France, one in Normandy, one in the north, but a Joint Committee uniting the delegates of the various agreements would meet, whenever any useful purpose could be served, to co-ordinate the decisions of the different provincial organizations. Such being the principle, what were the results achieved?

Three schemes were put forward as early as June and July, 1934, for the sanction of the spinners of the three big areas above-mentioned.

The scheme of the Eastern area, under the auspices of the *Syndicat Professionnel des Filateurs de Coton des Régions de l'Est* (Vosges, Alsace, Belfort) embodied the following features:—

Its statutory object was "to remedy the lack of balance between production and consumption of yarns made from American cotton or from any other source classified as American, by adjusting production to the requirements of the clientèle to be effected by a judicious regulation of the number of hours to be worked in the cotton spinning mills of the Eastern area, leaving to each spinner, full liberty commercially as regards, in particular, prices to be charged." On the other hand a contract, signed by the Syndicat and each supporter, authorized the Committee of Management to limit the duration of work per fortnight and per shift. By the same contract, the spinner-member undertook to compensate for the purchase of all new spindles by scrapping an equal number of old spindles and also to compensate for all spindles running two or three shifts by stopping an equal number, or double the number of spindles. Far-reaching powers of supervision and inspection were granted to the Committee of Management and clearly defined penalties provided in case of contravention. Cancellation of signed undertakings could not be requested before the expiration of a period of three months dating from the first meeting of

the Managing Committee and could only take effect six months after the date of notification, the practical effect of this disposition being to bind the supporters up to March 31, 1935. Finally the spinner-weavers supporting the scheme were bound by their contract in respect of the whole of their spindles.

The agreement of the spinners of the Western areas and that of the spinners of Northern France, were drawn up on analogous lines to the previous scheme but subject to different legal clauses and they embodied certain special dispositions: the double-shift spinners were obliged to carry into effect per shift, more extensive short-time working than single-shift spinners (Northern and Western France)—option of replacing short-time working by the stoppage of equivalent plant (North and West).

In short, the three schemes furnished the only solution considered possible in practice by the majority of the spinners, to the problem of trade organization, i.e., mandate given to a Committee of Management to control the production of American yarns with a view to a better adjustment having regard to consumption. Thus were set aside until further notice, the formula governing price agreement considered impossible of achievement and that governing the buying up of plant—this question brought forth strong objections, both of a practical nature (in view the difficulty of finding the necessary funds) and of an economic nature (considering the danger, in the absence of State intervention, of putting a premium on the installation of new spindles and new looms). On the other hand, it was intended that the representatives of these three schemes, formed or in formation, should meet from time to time to exchange views, as regards the measures contemplated respectively in the three areas.

These three attempts at control did not achieve uniform results.

The first to be constituted on June 14, 1934, the *Syndicat Professionnel des Filateurs de Coton de l'Est*, embodied in its group, as from the outset, about 84 per cent. of the spindles concerned (3,192,486 spindles out of 3,817,518). The weekly short-time, which at first was 4 hours, was successively increased by the *Syndicat* to 8 hours (July 7) and to 16 hours (August 6). In point of fact, the extent of the short-time working thus decided, proved to be much smaller than the situation required. Although stocks, after having continued to increase in July, were partially reabsorbed during the three months of August, September, October, prices continued to decline, doubtless at a less pace than if there had been no *Syndicat* but still with all too rapid a descent, seeing that the spinning margin for twist 28's unbleached dropped from 3f.10 in May to 2f.40 in November. In short, really tangible results but inadequate; on the other hand, the moral result was very important since the *Syndicat* affirmed for the first time, the concerted effort of a very big fraction of the French cotton spinning industry in the attempt itself to control its own production.

The combination of spinners of the west (*Groupement des Filateurs de l'Ouest*) formed in July for three months, was finally prorogued until March 31, 1935, i.e., until the earliest date when the

members of the *Syndicat Professionnel des Filateurs des Régions de l'Est* (Trade Federation of Spinners of the Eastern Areas) can regain effectually their freedom. Amalgamating 87 per cent. of the spindles at issue (1,214,616 spindles out of 1,383,917) it has, from the outset practised and still practises 16 hours stoppage per week. If, like the action of the *Syndicat des Régions de l'Est*, its action has coincided with a certain reduction of stocks, it has not been able to prevent, in respect of those yarns most commonly spun in Normandy (20's French counts or coarser) a drop in prices equal to that announced in respect of the finer count yarns of the Vosges.

As regards the *Groupement des Filateurs du Nord* (Association of Spinners of the North), this organization, although having obtained in August the support of approximately 80 per cent. of the spindles concerned (i.e., approximately 800,000 out of 1,000,000) was never really constituted, the dissension having been considered as being too great and moreover, impossible of reduction by reason of the divergence of views in respect principally of the system of double-shifts and the applying of the proposed control to spinner-weavers. Fairly intensive short-time working has none the less been practised in the province of the Nord but to a variable extent and by the individual initiative of each firm and not in conformity with a uniform and concerted decision.

Following immediately after the end of September, it was perceivable that—however extensive its moral effect—the attempt at collective discipline accepted voluntarily during the summer by the provinces of the Est and by Normandy, had not produced, in actual practice, the results expected as was evident from the continued fall in prices, the increase of short-time working (40 per cent. to 45 per cent. approximately of plant) and the accrued financial difficulties of the concerns. Some attributed this relative failure to the existence of dissentients and to the impotence in this respect, of any solution not incorporating State intervention—others emphasized the non-operative character, in their opinion, of a system of control left practically to the initiative of the districts despite the exchange of views by the Committee forming the link between the schemes and again appealed for a national understanding among cotton spinners—still others seeing finally in the practice of double-shift working by a portion of the industry¹ the principal cause of over-production and of the fall in prices, declared that no industrial understanding would ever be workable so long as a solution of this burning question did not provide for the suppression of, or at least for penalizing double-shift working. These different reasons were put forward, sometimes simultaneously, by a certain number of firms by way of announcing their intention to consider themselves free after the expiration of the time fixed by the respective Articles of the two Associations of the east and west. Taking these notices of resignation into account, the percentage of supporters of the *Syndicat Professionnel des Filateurs des Régions de l'Est* fell to approximately 52 per cent. and that of the *Groupement des Filateurs de l'Ouest* to 61 per cent. As was inevitable, the mere announcement of these

¹ About 10 per cent. spinning spindles and 6 per cent. looms.

defections could only give rise to doubt as to the duration and the continuity of the attempt to control current production, emphasize its precarious nature and to limit its psychological effect on the market. Thus the fall in prices continued at a rapid pace during the autumn. The industrial depression was characterized in the closing months of 1934 by the complete stoppage of 20 per cent. of plant, and taking short-time working into account, by a diminution of about 50 per cent. of productive capacity.

The aggravation of the industrial situation, the shock to the two agreements as constituted in the East and in Normandy, the fact that no concerted control of production had been achieved in the North, again raised the whole problem of the trade organization of the spinning industry. The point was, to know whether a solution should continue to be sought in a surrounding of freedom, or whether positively an appeal would be made to the State. Several formulæ based on one or other of these two tendencies and designed to create a more efficient trade organization of the French spinning industry, were proposed and discussed at the *Syndicat Général de l'Industrie Cotonnière* by the representatives of the different regional agreements whether existing or in formation.

Two of these formulæ clung to the idea of free control. The one consisted in the institution of a Selling Bureau for American yarns, the other in the conclusion, between the existing regional scheme and each yarn buyer, of a fidelity contract in which the buyer undertook, under the liability to penalties, only to buy his yarns from firms supporting the agreement. Both these projects were set aside in spite of the interest they aroused; it was considered, in effect, that the practical efficacy of the same was itself subordinate to the prior conclusion of agreements covering at least 95 per cent. of plant and that, consequently, far from solving the essential problem—that of the dissentients—they pre-supposed it settled.

Another scheme, very complete and well studied, referring on the contrary to the idea of intervention, was put forward by the *Syndicat Normand de la Filature*. It was characterized by the purely national basis given to the Spinners' Agreement—by a quota system of raw material dependent on the supposed needs of consumption—by the obligation imposed on each supporter to stock, with a view to their absolute withdrawal from circulation, the quantity of manufactured products determined by the Committee of Management and for such time as might be considered necessary by the said Committee—finally by a double intervention of the State, consisting on the one hand of the check exercised by the Customs on the release of cotton from public warehouses and on the other hand, by the levy of a 20 per cent. *ad valorem* tax on raw cotton, used by the dissentients. In short, the scheme was based on four ruling ideas: the necessity for a national organization; the necessity, in the interests of the maintenance of prices, to equalize at the very outset the conditions governing stocks at the mills; the necessity for adjusting production to consumption; the necessity to stifle out any dissension by the levy of a heavy State tax, similar to that imposed in Poland on dissentients from the Spinning Trade Agreement.

The principle, at the basis of the Normandy scheme, of the national organization, encountered very strong opposition, notably in the district of the Vosges, and the principle of obligatory stocking had also to be set aside by reason of the difficulties of a technical nature which it involved. The scheme was finally set aside but from the discussions which it had created, two conclusions were forthcoming: the necessity to define and to reinforce, within a given measure, the Central Committee intended to ensure the link between existing agreements and on the other hand, the opportuneness of studying whether to have recourse ultimately to a tax on dissentients. Thus, after several months of partially unavailing efforts, the question, set aside temporarily, of the intervention of the State in the trade organization of French cotton spinning was once again raised with the greatest keenness. Concurrently with the technical work consisting of the search for the best formulæ for the control of production, consideration was given to the search for the least dangerous methods of control which might, if necessary, be required from the State with the object of eliminating dissension. In the case of many industrialists, sentiment with a clear insight of the dangers of State intervention was dominated by a sort of instinctive spirit of self-preservation in face of the more or less imminent catastrophe of their enterprises, if the situation were to continue to grow worse.

In regard to the technical plan, combined efforts have already achieved an understanding of principle between the cotton areas as regards the powers to be granted to the Central Committee linking together the district spinning agreements. This understanding is not limited to agreeing to the number of votes to be granted to the representatives of each area in the said Committee. It defines the limits within which the co-ordinating Committee can amend the decisions of short-time working taken by the various district agreements, with a view to avoiding excessively wide differences in the duration of working time adopted respectively by the different spinning areas. Finally it gives the Committee controlling powers which render it able to verify the carrying out of the decisions taken either by itself or due to the district agreements. In principle, the technical problem of the regulation of work has thus been settled. In practice, however, it is far from being so, for it has not yet been submitted to a referendum and it is still unknown what proportion of plant will be prepared to give support, the more so as, in certain districts and particularly in a big part of the industry in Alsace, a demand will be made if the proposals are carried, for the restrictive control of double-shift working.

As regards the eventual intervention of the State in the trade organization of the cotton industry, the question has changed considerably. At the very time when cotton circles showed themselves prepared to examine the institution of a tax on cotton for dissentients (October, 1934), other branches of the French textile industry, inspired by the same anxieties, took advantage of an enquiry then opened by a Government Commission respecting the general situation of the French textile industry, to demand, in

so far as they are concerned, the intervention of the public authorities—this was done in so grave a form that the whole of the federated groups represented with the General Confederation of French Producers (*Confédération Générale de la Production Française*) decided to discover in common, a less dangerous formula of intervention suitable for suggestion to the Government and reducing to a minimum the risks inherent to such intervention. According to the terms of the formula thus elaborated, when a branch of industry was faced with a state of grave danger, the promoters of any agreement representing at least 75 per cent. of the productive capacity of the said industry, could apply first to the conciliation-arbitrator chosen from trade circles foreign to the industry in question and who considered whether it was opportune or not to apply the agreement generally throughout all the members of that trade. If, following upon the opinion thus expressed, discord still obtained between the dissentients and the partisans of the agreement, the latter could apply to a special tribunal (presided over by a State Counsellor assisted by four assessors selected from trade circles) to enforce the general application of the agreement by a decision of an enforceable nature.

Thus the French cotton industry was no longer called on to express its views on the tax scheme which it had originally contemplated but had to voice its opinion respecting this system of arbitration with obligatory scope which, by the very reason of its more general character, had greater chances of succeeding. Asked to express its views in this matter, the Committee of Management of the *Syndicat Général Cotonnier* unanimously repeated on November 29, 1934, its attitude of being in principle, opposed to the intervention of the State in an industrial organization but recognizing on the other hand that, in the present state of things, the necessary agreements to bring about this industrial organization could only subsist if made applicable to all the members of the industrial branch in question, the Committee gave, by a majority vote, its support in principle to the obligatory arbitration formula as detailed above.

Since then, the French Government has been engaged on the question and has presented to Parliament a draft law also organizing arbitration calculated to lead to the obligatory application generally of the industrial Agreement in a trade but embodying some rather serious differences as compared with the scheme evolved by the employers' groups¹. During the investigation of

¹ These differences are, in particular, as follows :—

The idea of a conciliation-arbitrator put forward by the federated groups of the French industry has been abandoned ; on the other hand the composition of the Arbitration Committee has been changed : this latter comprises, apart from a President nominated by the Government, the President of the General Producers' Confederation (*Confédération Générale de la Production*), the Secretary of the General Labour Confederation (*Confédération Générale du Travail*), the Governor of the Bank of France, the President of the Conference of Presidents of the Tribunals of Commerce and, acting as a Government Commissioner, the General Secretary of the National Economic Council ; finally any eventual decision of the Committee of Arbitration in favour of obligatory application of any industrial agreement under discussion can only be made compulsory by a decree resolved at a Ministerial Meeting.

the Government's draft by the Commercial Commission of the Lower House, these differences have been very distinctly accentuated, in particular, new arrangements confer on workers' unions more extensive guarantees of collaboration and supervision. Nor is it doubtful, moreover, that the draft law is likely to be subjected to other very important modifications during the debates in Parliament and at the time of writing this report, it is not possible to ascertain the final character of the draft law in question. As to the question whether or not, in case of need, the cotton industry will have recourse to legislation of this kind, this can only be answered by the Committee co-ordinating the district Agreements, if the system which is at present being worked out, becomes one day a practical reality. It is moreover probable, that when the time comes, the decision of the said Committee will itself be dependent on the industrial situation, on the extent of the dissension and also on the degree to which the legislator will intrude on the Statutes of Industrial Agreements submitted to arbitration.

It will be seen that Trade Agreements are not then up to the present, a reality in the French cotton industry and the object of the present report is less to record the results of an attempt made, than to note the difficulties of efforts, laborious, unfinished, and of which the outcome is still uncertain. Nevertheless, two conclusions are revealed from the foregoing statement; the first is that on the whole, the French cotton industrialists are to-day fully alive to the necessity for collective control of their production, the second is that their hesitating efforts to achieve it, have been outstripped by the progress of the crisis and that by failing to achieve results in due time, they have allowed the public authorities to grapple with the problem of trade organization, a fact of considerable importance, the consequences of which cannot be foreseen and of which industry might have to suffer any repercussions, even if finally the trade does not itself take the initiative of having recourse to the law. It is none the less highly to be desired that the attempt now under way, may definitely be brought to a successful conclusion, if possible, without appeal to the State: therein lies the present and future prosperity of one of the greatest French industries. Therein lies also, to a certain extent, the prosperity of the world's cotton industry, and there is no need on this occasion at a Congress of the International Cotton Federation, to refer to the contribution which a better organization of the production of each of the great national cotton industries, could confer towards the world-wide equilibrium of our industry.



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ARGENTINA.

Cotton production for 1933-34 is placed at 43,000 metric tons (equivalent to about 200,000 bales of 500 lbs.) compared with 33,000 tons or 150,000 bales in 1932-33. Preliminary estimates for the 1934-35 crop place it at about 260,000 bales.

According to local officials there were about 6,400 growers producing cotton in the Chaco district, which accounts for about 93 per cent. of the total crop in Argentina. It is said that during harvest time about 20,000 pickers come from other parts of the country.

In former years it was the general practice for the ginner to sell the fibre to Buenos Aires exporters but the latter have recently established in many cases their own cotton gins so that at present the cotton ginner acts more as intermediaries between the cotton producer and the exporting firm and do the ginning for the account of the exporter. The price of the cotton in Argentina is governed by c.i.f. quotations at Liverpool. However, while the Liverpool price is on a net basis, Argentina cotton merchants pay on a gross weight basis. About 40 per cent. of the cotton crop is estimated to be consumed locally.

A recent editorial in the *Revista Textil* states that the number of spindles has increased from 60,000 in 1932 to 200,000 at present, and that before the end of the year the industry probably will have 300,000 spindles. Looms in cotton mills were placed at 2,700 at the end of 1933 by local publications. The construction of additional mills is contemplated and local trade reports state that American capital is interested in the development of the Argentine industry.

A decree published recently provides for a National Cotton Board under the presidency of the Minister of Agriculture and includes representatives from cotton growers, merchants and manufacturers. The functions of this Board will be to make the necessary studies and issue regulations with respect to production, marketing, and classification of Argentine cotton.

(*Commercial Attaché Alexander V. Dye, Buenos Aires.*)

BRAZIL.

Exports to Germany continued to be relatively large and there was a tendency among local exporters to prefer German orders owing to the higher prices offered. It is said that in some cases German firms offer as much as a cent a lb. higher than current

quotations. It is also said that in many cases little attention is paid to the quality by German firms.

Cotton crop in north-eastern Brazil for 1934-35 is estimated at 135,000 tons by local authorities. It is said that weather conditions for the 1935-36 crop are generally favourable and it is estimated on the basis of current conditions that the crop may be larger than in 1934-35. Active interest is displayed by local officials in cotton growing. Experiment stations are established and planting seed distributed. Larger funds were provided for the agricultural research in Pernambuco.

(Textile Raw Materials.)

Messrs. Geo. H. McFadden & Bro., writing on June 21, 1935, state that the weather in the South section of the Belt for the most part continued to be too cool for the proper development of the late crop. The estimates still range for this year's production from around 425,000 to 650,000 bales. It is difficult to ascertain the acreage planted or the probable yield, however, our correspondents continue to estimate the probable crop at around 550,000 bales of 478 lbs.

The reports of the Northern crop continue to be good. The weather has been ideal for growing and a large production is anticipated from this territory. The crop is expected to begin to move around the first part of August.

The Cotton Growing Congress organized by the Brazilian Government just concluded took some definite steps regarding cotton culture and made several suggestions to the Government. Perhaps the three most important points discussed were the lack of adequate labour, need for manufacturing insecticides in Brazil, and the formation of co-operatives among the cotton growers.

In regard to the first point, which is brought up through recent immigration restriction, the Congress said that the lack of farm labour was even more important than the "formation of the Brazilian race" and that such questions should be studied by specialists in order to decide upon the class of immigrant most adapted to the country with the idea of letting down present bars to such immigrants.

As to the insecticides, the Congress asked the lowering of customs duties on the import of white arsenic and Government initiative in erecting factories for the manufacture of insecticide. Co-operatives of cotton growers, the Congress decided, should be formed independent of Government supervision of any kind, and it asked the Government to modify its present legislation on this subject to the end such co-operatives may be formed.

The nationalistic trend of discussion was seen in the adoption of a resolution that the Government should give prizes for Brazilians who invented machinery for ginning and baling cotton, the use of cotton-seed oil by Government recommendation, especially in Government establishments, the restriction of exportation of cotton-seed so it may be used in the live stock and farming industries, and building up in the interior of oil extraction factories. The Congress asked free entry into the country of all machinery needed in the production and marketing of cotton, and the absence

of all State and municipal taxes for five years on cotton establishments of all kinds.

The question of grading was taken up and two types of cotton were recommended as terms throughout the country; algodao em caroco, for gross cotton with seeds, and algodao em pluma, for processed cotton (supposedly baled). A Government campaign to teach growers the necessity of standard grades of cotton was also recommended.

The opening and closing sessions of the Congress, which lasted four days in both day and night sessions, was presided over by Minister of Agriculture Odilon Braga who made the trip from Rio de Janeiro for this purpose. This indicates the interest of the national Government in the possibility of developing an important export to increase the favourable balance of trade and in this way get on with the releasing of the "frozen credits" which have been hampering American and other exporters to Brazil for several years due to exchange difficulties.

The Directorate of the Textile Plant Service of the Ministry of Agriculture, has published statistics showing the quantities of cotton classified by the Service during the year 1934, in the various States of the Republic:—

States	No. of Bales
Pará	10,229
Maranhão	61,679
Piauí	27,489
Ceará	84,329
Rio Grande do Norte	133,372
Parahyba	203,505
Pernambuco	69,737
Alagoas	84,905
Sergipe	50,880
Bahia	53,040
Federal District	16,852
Minas Geraes	42,179
São Paulo	436,866
Total	<u>1,279,033</u>

Early estimates anticipate a larger crop during the present season, notwithstanding pest trouble, particularly from the northern States.

On May 9 last, the first bale of cotton of the new crop was sold by auction in the Produce Exchange of São Paulo, and realized the sum of 35 contos, which was handed over to charity.

It is reported that the second national Cotton Congress will be held in Recife, Pernambuco, next year.

BELGIAN CONGO.

The cotton crop for 1934 is placed at 20,174 metric tons (of 2,205 lbs. each) compared with 15,454 tons in 1933, according to the April report of the French Colonial Cotton Association. Preliminary estimates for 1935 place the crop at about 35,000 tons.

(United States Department of Agriculture.)

BULGARIA.

Conditions during May were favourable for cotton but growth was hindered by the cold of the first days and the bad weather of the end of the month.

A further and very material increase in the area is notified. According to the latest estimate an area of 104,000 acres is being cultivated this year, compared with 50,700 acres in 1934 and an average of 22,300 in the five preceding years; percentages: 204.6 and 465.2.

(International Institute of Agriculture.)

CHINA.

The Chinese Cotton Statistics Association, 260 Avenue Edward VII, Shanghai, published its final estimate of cotton crop in China for 1934 as follows:—

Area	..	..	..	44,971,264 mow excluding 664,140 mow of abandoned area
Production	..	..	..	11,201,999 piculs (lint)

The above figures are based on the final reports received from the eleven provinces of Hopeh, Shantung, Shansi, Honan, Shensi, Hupeh, Hunan, Kiangse, Anhwei, Kiangsu and Chekiang and the two municipalities of Shanghai and Tientsin; one mow being equivalent to 6,000 sq. ft. and one picul 100 catties.

For comparison the figures of area and yield published in the first and second estimates of 1934 and the final estimates of 1934 and 1933 are given below:—

			Area mow	Yield picul
First estimate 1934	..	..	44,441,047	10,497,924
Second estimate 1934	..	..	44,807,579	11,172,553
Final estimate 1934	..	..	44,971,264	11,201,999
Final estimate 1933	..	..	40,454,023	9,774,207

The following are the figures of area and yield of the different provinces in the final estimate 1934 compared with the final estimate 1933.

		Area 1934	Yield 1934	Area 1933	Yield 1933
Hopeh	..	7,807,442	2,836,127	6,121,971	1,444,912
Shantung	..	5,493,362	1,334,053	5,357,335	1,468,932
Shansi	..	1,796,260	601,096	1,310,761	502,412
Honan	..	4,091,771	1,022,357	3,707,637	816,660
Shensi	..	3,710,938	1,004,114	2,106,667	544,935
Hupeh	..	7,861,915	1,910,783	8,183,605	2,177,593
Hunan	..	885,989	100,389	881,262	178,082
Kiangse	..	237,759	33,789	202,700	59,133
Anhwei	..	1,244,651	231,738	1,073,672	144,440
Kiangsu	..	10,207,010	1,664,935	9,876,909	2,045,260
Chekiang	..	1,634,167	462,618	1,631,504	391,858
Total	..	<u>44,971,264</u>	<u>11,201,999</u>	<u>40,454,023</u>	<u>9,774,207</u>

CHOSEN.

Cotton crop of 1934 is placed at 137,000 bales, including 110,000 of Upland species and 27,000 of native cotton compared with a total of 139,000, including 104,000 Upland and 35,000 of native for 1933.

(United States Department of Commerce.)

COLOMBIA.

The cotton crop of 1934 yielded only 1,600 tons of clean fibre, owing to adverse weather conditions during the growing season. Departments of Alantico Magdalena and Bolivia produced 1,200 tons. Consumption was approximately 3,000 tons in excess of production.

(U.S. Department of Agriculture.)

HAITI.

Particular interest attaches to the cotton crop this year in view of the estimates of a record crop made at the beginning of the season and of the recent discovery that the Mexican weevil is present to a serious extent in some of the cotton-growing areas. Cotton has become a profitable crop and the area cultivated has been greatly increased. Production has been greatly stimulated by the substantial rise in cotton prices which has occurred during the last two years. Cotton has been regarded as one of the most promising products for export and efforts have been made to promote its cultivation with the object of relieving the country from its dependence on coffee. This year's crop appears to be particularly plentiful. Cotton shipments in the period October, 1934, to February, 1935, show an increase of 47 per cent. on those of the same period of the year 1933-34. If the same rate of increase is maintained in the coming months, total exports for this year will be well above 32,300 bales of 478 lbs. net weight. The largest exports hitherto recorded are those of 1931-32 (29,100 bales).

(International Institute of Agriculture.)

Cotton crop of 1934-35 is estimated by local authorities to be between 6,000 and 7,000 metric tons of 2,205 lbs. each. It is reported that the boll weevil has made its appearance and while it will have little effect on the current crop, fears are expressed that it will spread and affect future crops.

KOREA.

Plans designed to expand cotton acreage and production in Korea are now being considered by the Government of Korea. The programme under consideration provides for a steady expansion in acreage during the next ten years until the area under cotton by 1944 will amount to 858,000 acres. It is the hope of the Government that this acreage may be made to yield 1,162,000 bales of 478 lbs. each.

The acreage and production of native varieties could undoubtedly be expanded materially, especially if the price of cotton is such as to make it profitable enough to grow cotton and import food crops. It is doubtful, however, whether any significant percentage of the crop would consist of Upland varieties, since all experimentation along this line during the past 20 years has been without significant results.

The area devoted to cotton in Korea during 1934-35 has been estimated at 480,000 acres and the crop at 155,000 bales. The 1933-34 area was 433,000 acres and the crop 140,000 bales. No marked tendency toward increased cotton cultivation has been apparent in Korea. Experiment station results, however, seem to indicate that cotton can be grown over a considerable area. While some expansion in acreage may take place if the present relation between prices of cotton and other crops continues, it is not expected that any increase in production could be a factor in the market for American cotton in the immediate future.

(Foreign Crops and Markets.)

MEXICO.

Cotton crop of 1935 in the Matamoros district will be considerably below the earlier estimates, according to local planters. In 1934 there was a record production of 45,000 bales in that district and preparations were made for a larger acreage in 1935. Planting, however, was restricted by the unbroken drought in north-eastern Mexico for the last four or five months. The crop, which was estimated in December at about 60,000 to 75,000 bales, has been placed at the end of February at about 30,000 bales. However, crop prospects improved in the early part of March when the drought was broken by light rain.

(Textile Raw Materials.)

A report from the International Institute of Agriculture states that sowing of cotton was proceeding during April in the main producing areas of the country. It was estimated that the area intended for this crop would be, on the whole, smaller than last year, the decrease being most appreciable in Comarca Lagunera owing to the scarcity of rain.

(International Institute of Agriculture.)

NIGERIA

Up to January 19, 1935, 130,240 centals (27,247 bales of 478 lbs.) of cotton had been purchased for export as against 67,600 (14,155) during the same period last season. The total crop may therefore be confirmed as a record one.

(International Institute of Agriculture.)

PERU.

Cotton Exports for the calendar year 1934 amounted to 67,301 metric tons equivalent to about 297,000 bales of 500 lbs. according

to official figures. This total represents a record and is 10,000 tons greater than the previous high of 57,000 tons in 1927. Exports in 1933 aggregated 55,264 tons and 46,907 tons in 1932. Exports in 1934 were more widely distributed than heretofore, shipments having been made to countries which imported Peruvian cotton for the first time. The principal countries of destination were as follows: Great Britain, 42,210 tons; Germany, 15,208; Belgium, 2,497; Japan, 2,098; France, 1,850; India, 1,214; and Italy, 897.

Exports by varieties were as follows, in 1934: Tanguis, 60,881 tons; Pima 5,173; moderate rough, 617; other lint cotton, 630. Exports of cotton linters amounted to 633 tons against 431 in 1933.

Local consumption of cotton is estimated at about 6,000 tons, which makes the 1934 commercial crop of cotton about 73,000 tons, or about 322,000 equivalent 500-lb. bales. This total is considerably larger than the earlier estimates of the crop. The grade of the 1934 crop was not as high as that of 1933. The larger crop is accounted for by the local merchants by the following factors: larger area, sufficient irrigation waters, favourable climatic conditions, greater use of fertilizer and selected seed, and wider use of the facilities placed at the disposal of cotton growers by the Banco Agricola.

While the area planted to the 1935 crop is said to be larger than in 1934, the delayed arrival of irrigation waters and less favourable climatic conditions in February made crop prospects uncertain. During the early part of March, however, conditions are said to have improved, with sufficient irrigation waters in most valleys and local merchants estimate the current crop at about 280,000 bales.

(Textile Raw Materials.)

QUEENSLAND.

The cotton crop in Queensland is usually planted from the middle of September to the middle of November, a period when temperatures are favourable for the rapid germination of the seed and when rainfall is at its lowest point. The rainy season begins toward the end of November and reaches its highest point during January and February. Temperatures during this period also rise steadily, reaching their highest point in January and February. The cotton plants reach maturity toward the end of March. During the period running from the end of March to the end of June, when picking takes place, the weather is clear and dry, warm during the day and cool at night. These are specially favourable conditions for the successful production of cotton.

Numerous varieties have been tested and Durango seems to have given the best results, as regards both yield and quality. It is expected that this type will soon be the standard cotton of Australia. The bulk of the Queensland crop falls within staple lengths of $1\frac{1}{16}$ to $1\frac{1}{8}$ ins., usually running toward the longer length. The average grade of the Australian crop is said to be about equal to good middling American.

Studies made by the Queensland Department of Agriculture several years ago indicated that the cost of producing cotton in the State was in the neighbourhood of 3d. per lb. of seed cotton. This figure includes cost of ploughing, harrowing, planting, culti-

vating, thinning, picking, bagging, and cartage. The cost of picking is the most expensive item, the rate being around 1.5d. per lb. The cost of ginning is also high, around 1.125d. per lb. of seed cotton.

AUSTRALIA: AREA AND PRODUCTION OF COTTON IN QUEENSLAND,
1922-23 TO 1933-34.

Year	Production of seed cotton			Total production of ginned cotton Bales*
	Area harvested acres	Total lbs.	Per har- vested acre lbs.	
1922-23	40,821	12,543,770	307	8,739
1923-24	50,186	16,416,170	327	11,436
1924-25	40,062	19,537,274	488	13,611
1925-26	18,743	9,059,907	483	6,312
1926-27	14,975	7,060,756	472	4,919
1927-28	20,316	12,290,910	605	8,562
1928-29	15,003	8,024,502	535	5,590
1929-30	22,652	17,022,897	752	11,859
1930-31	22,452	15,244,644	679	10,620
1931-32	65,195	6,171,116	95	4,299
1932-33	80,324	17,718,520	221	12,344
1933-34	50,000	26,845,172	537	18,702

* Converted to ginned cotton in bales of 478 lbs each, net weight, on basis of 33.3 per cent. ginned from 100 lbs. of unginned cotton.

ROUMANIA.

According to the most recent information, cotton production in 1934 is estimated at 5,100 centals (1,100 bales of 478 lbs.) against 8,500 centals (1,800 bales) in 1933 and an average of 1,200 centals (250 bales) in the five years 1928-1932.

The wide fluctuations in production are chiefly the result of variations in the area under cotton during these years.

(The International Institute of Agriculture.)

ST. VINCENT.

In the quarter ending December 31, 1934, conditions were very favourable in most districts but owing to low prices cultivation was often somewhat neglected. A fair amount of boll shedding occurred in December but insect pests were very scarce. No pink boll-worm or caterpillars were reported and the incidence of stainers was very low. The area under Sea Island cotton was 1,464 acres as compared with 1,216 in 1933-34 and 2,535 on the average of the preceding five seasons. Percentages: 120.3 and 57.7. Production of ginned cotton was forecast at about 1,600 centals (335 bales of 478 lbs.) as against 997 (209) in 1933-34 and 3,056 (639) on the average. Percentages: 160.6 and 52.4. The area under Marie Galante cotton was 652 acres as compared with 719 in the previous season and 966 on the average. Percentages: 90.7 and 67.5.

(The International Institute of Agriculture.)

SUDAN.

The Sudan Government, Department of Agriculture and Forests, Khartoum, end of May estimate of the cotton progress, 1934-35 season. It must be understood that these figures are only roughly approximate at this stage of the cotton season:—

Bales 400 lbs. lint	Estimated Total Yield		Picked to date		Area under Crop, Feddans	
	1934-35 May	1933-34 June	1934-35 May	1933-34 May	1934-35 May	1933-34 June
Sakellaridis —						
Gezira { Syndicate { K C C }	195,000	102,490	195,389	102,410	156,040	155,936
Tokar 	11,163	5,655	10,909	5,007	19,143	18,991
Kassala 	17,125	15,341	16,875	15,025	31,681	37,700
Shambat and Dueim	587	262	587	261	28,210	31,146
Private Estates (Khar- toum and Berber Province)	5,500	4,090	5,352	3,907	500	500
Total Sakellaridis	229,375	127,838	229,112	126,610	241,920	249,220
American —						
Irrigated 	8,506	13,396	8,506	13,396	12,421	12,300
Rain Grown	36,034	21,700	36,034	21,700	96,916	59,414
Total American ..	44,540	35,096	44,539	35,096	109,337	71,714
Total Sakellaridis and American	273,915	162,934	273,651	161,706	351,257	320,934

SYRIA.

Cotton production in 1934 is estimated at about 2,500 tons, of which 1,900 was of the Lone Star variety and 600 of native cotton. The crop is ginned mostly by Aleppo merchants. A considerable part of the crop is purchased by the local cotton spinning mills which produce yarn for sale to the numerous household weavers. It is said that the local mills are adding to their equipment.

(United States Department of Commerce.)

TURKEY.

Out of the total yield of Turkish cotton in the past season of 135,000 bales (200 kgs. each), no less than 50,000 bales were taken by Germany. The trade between the two countries during the spring and summer months (February to August) is usually largely in favour of Germany (last year it totalled R.M. 8,600,000 during the said period), so that sufficient credits are thus available when necessary to finance imports of raw cotton from Turkey, the more so as the present quotation is about 30 to 32 piastres per kg. as compared with about 50 piastres in the early part of last year. In view of the development of the Turkish cotton industry, however, the percentage of future crops available for export is likely to be less than in the past.

UGANDA.

Cotton crop of 1935 is estimated, on the basis of March conditions, at about 220,000 bales of 400 lbs. according to local officials. Purchases of cotton from growers to the end of February were substantially smaller than last year.

(United States Department of Commerce.)

U.S.S.R.

During the second half of May and the first half of June, weather was dry and warm generally in Central Asia, while good rains fell in the new cotton-growing regions (Ukrania, Crimea and North Caucasus).

This year sowings are 10 to 15 days in advance of last year. On June 1, the first operations had been carried out on 82.7 per cent. of the area sown in collective and private holdings and on 65.1 per cent. of the State Holdings. The work of irrigation was very difficult, especially in Central Asia, owing to the low level of the water courses. On June 1, the first irrigation had been done on 21.2 per cent. of the area and the second on 3.7 per cent.

(International Institute of Agriculture.)

Weather in the Central Asiatic regions was predominantly dry and warm during April. Rains fell over most of this zone only in the last week of April. Weather in the first decade of May was again dry and warm in the new cotton-growing regions (Ukrania, North Caucasus, Crimea). Rainfall in April and in the first decade of May was frequent and sometimes abundant.

Sowings of cotton were made more rapidly than last year, though in several regions of Central Asia owing to the drying up of the streams feeding the irrigation canals, sowings had to be made again owing to the excessive dryness of the soil.

The total area sown to cotton in the whole of the Union was 3,680,000 acres, or 76.6 per cent of the Plan. State farms contributed 224,000 acres, or 92.2 per cent of the Plan and collective and individual farms together accounted for 3,453,000 acres, or 75.9 per cent. of the Plan. In 1934 collective and private farms had sown 2,397,000 acres up to May 1.

On May 10 95 per cent. of the cotton sowings provided for in the Plan had been accomplished.



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Qualities in Cotton Required by the Spinner.

Report by Mr. N. S. PEARSE, General Secretary of the International Federation of Master Cotton Spinners' and Manufacturers' Associations, presented to the International Cotton Congress, Milan-Rome.

IT has been my pleasure and privilege to visit the United States Cotton Belt upon several occasions, and frequently during each visit cotton farmers, landowners and others connected with the cotton-growing industry have asked the following question: "Say! What kind of cotton do you spinners really want?" In the case where the farmer has given the matter a little thought, he has jumped to the hasty conclusion that the world's spinners require their cotton to be of long staple, and the longer the better.

Occasionally, I have been asked to address meetings of cotton planters, and have explained to them the qualities the spinners desire in their cottons. As these addresses have usually been given at a moment's notice and without any preparation, I have not been able to do justice to this important subject. Therefore, it appears to me that a very useful purpose would be performed by stating clearly the exact qualities the spinner requires in his cottons, and that the information in the present paper should be distributed, not only to American cotton growers, but to the cotton cultivators in all cotton-growing countries. Needless to say, cotton shippers also may benefit from the views expressed herein.

It has often been said that the spinners have never indicated their requirements clearly, but it should be remembered that they are entirely out of touch with the grower, and information has to percolate through the broker, merchant, exporter and numerous other agencies before the spinners' views eventually reach the growers—that is, if they ever do. We do not expect the planter to understand the intricacies of cotton spinning—even a cotton merchant in Liverpool has been known to talk of "spinning" shirts—but I hope to explain in simple, non-technical language the qualities the spinner looks for in his cottons.

STAPLE.

There are, roughly speaking, five main classes of cotton spinning mills—thick, coarse, medium, medium fine, and fine. When asked to state the qualities of cotton required by the trade, a spinner in any of the above sections will immediately think of his own individual mill's requirements, but in the following table I have endeavoured to show the different growths each of the above sections will use.

	Length of Staple Necessary.	Origin of Cotton.
Thick.	Below $\frac{1}{2}$ in.	Cotton Waste, Chinese, Short Indian, etc.
Coarse.	$\frac{1}{2}$ in. to $\frac{7}{8}$ in.	East Indian, Short American.
Medium.	$\frac{7}{8}$ in. to $1\frac{1}{8}$ in.	American, Brazilian, Peruvian, Egyptian Uppers, Pilon, &c.
Medium fine.	$1\frac{1}{8}$ in. to $1\frac{3}{8}$ in.	Egyptian Uppers, Sakel, Brazilian, American, African, West Indian, Peruvian, Pilon.
Fine.	$1\frac{3}{8}$ in. and over.	Sakel, East African, Tanguis, Sea Island.

The main bulk of the cotton consumed in the world's mills probably lies between $1\frac{1}{8}$ in. and $1\frac{3}{8}$ in.—approximately 60 per cent. of the cotton produced to-day lies within these limits—no figures have been collected internationally to show the quantitative use of the different staples by the mills, and the above can only be estimated roughly.

Cotton growers should always keep in mind that a cotton with a short staple is of no use to the finer sections, but the coarser sections can use longer staple cottons than they usually find it expedient and profitable to put through their mills. Any cotton of a staple less than $\frac{3}{4}$ in. must necessarily compete with very cheap cotton-mill waste, and cotton planters cannot be urged too strongly to plant seed of such a quality as to produce a $\frac{7}{8}$ in. staple at the very least. In a dry season a $\frac{7}{8}$ in. staple seed will give much shorter lengths. Wherever possible, a seed which usually yields 1 in. staple is far more preferable, for cotton of $\frac{1}{2}$ in. up or down will always find a ready sale. Such cottons are termed "bread and butter" cottons by the spinners. The climate and other conditions in Egypt, the Anglo-Egyptian Sudan, East Africa, Brazil and Peru, are eminently suitable for the longer staple cottons in the quantity at present in demand by the mills for luxury goods during the present world depression, but where they can be profitably grown—that is, on good rich soils with a long growing season and with adequate moisture conditions—the cotton planter may find it more profitable to do so. However, he should realize that, owing to the longer growing season necessary for the maturing of long-staple cottons, his crop is exposed for a longer period to the vicissitudes of climate, plant disease and insect pests. Furthermore, the yield per acre is generally smaller than that of the shorter varieties.

UNIFORMITY OF STAPLE.

Perhaps the most important quality the spinner desires to find in his cotton is uniformity of staple—which factor is of paramount importance to the spinner. The ideal cotton in this respect would of course, be one in which each and every fibre is of exactly the same length, as is the case with synthetic staple fibre such as artificial silk. Long-staple cotton with a large percentage of short fibres mixed into it is almost useless to the spinner, for the fine spinner is obliged to comb out all the short fibres, and he would call it a "wasty" cotton. The price he would pay for such a sample

would naturally be lower in proportion to the amount of short fibres contained therein. In consequence, such a cotton would have to be sold at a very much reduced price to coarser mills to compete with shorter staples—even so the coarse spinner would find it necessary to comb out the longer fibres. It is the *average* length of fibre in any pull during sampling that will indicate the value of the cotton—it is not the longest fibres in a sample which decide the value of a cotton in the spinner's estimation, for he will pull out the few long fibres and leave the average. The reason why Californian cotton is not used to a greater extent by European spinners is that it is generally lacking in this important quality, or, in other words, it is not "even-running." I believe this unevenness in staple is due to uneven irrigation in the fields, the higher parts of a field receive less water than others, with the result that in these parts the staple is shorter than that of the more copiously irrigated sections. If the cotton from the higher portions of the fields were kept separate this objection could easily be overcome.

False-packed or plated bales, with short cotton in the interior and the longer staple at the sides, are of course so strongly condemned by the spinners for this very reason of lack of uniformity in staple, but in this case the trouble is more serious, for the spinner cannot find the short staple in the drawn sample, as the shorter fibres are all in the centre of the bale. Should the short cotton be put into the machinery which has been set for the longer staple endless trouble will occur, due to broken yarn, bad spinning and weak yarn, resulting in considerable waste, discontent among the operatives, loss in production, claims for poor yarn and loss of customers.

Irregular staple causes thick and thin places in the yarn and any unevenness in the thickness of the yarn imparts to the cloth a varicoloured appearance when dyed. Breakage of yarn also caused by irregular staple brings about the same effect owing to the joints in the yarn.

STRENGTH.

Strength of the individual fibres is the next most important quality in cotton desired by the spinners, for this quality obviously makes for a strong yarn and a strong cloth. The maximum strength in an individual fibre is only attained when the cotton boll is allowed to ripen fully; unripe fibres are immature and weak, and should a bunch of unripe fibres go through together into the yarn there would be a weak spot. Each bunch of unripe fibres shows up as a darker patch in dyed cloth for they absorb more dye than ripe cotton.

To the naked eye, individual cotton fibres appear alike, but under the microscope they appear as flattened tubes, with a number of kinks or convolutions running along their length, whilst these flattened tubes are twisted in some cottons more than in others. Some cottons also have more kinks than others, and are more suitable for certain yarns than a fibre with only a few. A sample of kinky cotton is what the spinner terms "rough," and is used for hosiery and blanket yarns, because it has a close resemblance to wool. The greater number of kinks or convolutions in a given length of fibre the greater will be the gripping power of each fibre to lap round and adhere to its neighbour in the yarn. But the

number of kinks is not the only quality which makes for strength in yarn. There is the question of fineness. The finer or thinner each individual fibre is, the more fibres can the spinner twist into a cross-section of a certain diameter of yarn, and the more fibres there are in any given diameter, the stronger will be the yarn. It is therefore obvious that cotton-seed breeders and cotton planters should develop and grow types of cotton with finer fibres. Although it may seem paradoxical, thick or coarse-fibred cottons do not make for strength in yarn.

UNIFORMITY.

Uniformity in the cotton, bale after bale, delivery after delivery, true to the original type, should next be aimed at by cotton growers, and I may also say, by the exporters. This is a fault one often finds with cottons grown in new cotton-growing countries, where the crop is only produced in small quantities. One planter will grow one kind of cotton, his neighbour another; one planter is careful with his picking, whereas another may leave his picking until late in the season, with the result that the latter's cotton will contain a larger quantity of leaf, and at the same time will become stained by rains or frost. When once a spinner decides that a certain quality of cotton is suitable for the yarn he has to sell to his customers, he will readily prepare his machinery for such a cotton, providing he can be assured that he can always obtain that exact quality of cotton year in and year out; unless he has this assurance, however, he will hesitate to alter his machinery to suit that cotton's staple, grade, strength and other qualities, for such alterations cause the spinner considerable inconvenience and monetary outlay. Egypt sells her cotton on "types" only, and is the outstanding example to be imitated in this respect.

NEPS.

Absence of what the spinner terms "neps" is an essential feature of good cotton. A nep is a little bunch of immature or unripe fibres usually only noticeable when a thin film of the sample is held up to the light: they are about the size of a pin head. Another type of nep is produced on *saw gins* when the cotton is ginned too rapidly, or when damp seed cotton is passed through the gin. Small neps on the surface of cloth show up after dyeing much darker than the remainder of the fabric owing to the fact that neppy cotton absorbs the dye more readily than ripe cotton. Before the war it was the usual practice in the United States to store the seed cotton for 10 to 14 days before it was ginned, and thus it was given an opportunity to dry out. In the modern days of high speed, the cotton is usually ginned the same day that it is picked, with the result that cotton picked in the early morning dew shows considerable quantities of neps. Some authorities state that when the seed cotton is stored for 14 days the staple will absorb a small quantity of the oil from the seed and take on an improved silky appearance. Some also even maintain that the staple will actually grow in length during this period.

COLOUR.

The colour of the staple is of some importance. As a general rule, a white cotton is preferred, but in some cases butter-coloured,

and even brown colours, are actually wanted, although the last mentioned have only a limited sale.

GRADE.

Grade refers to the general colour of the sample, and the amount of leaf in it. The presence of a large amount of leaf naturally lowers the price of the cotton, as spinners cannot spin leaf and it is merely waste. It is therefore obvious that a spinner will pay less for a very leafy cotton. Then again, small quantities of leaf sometimes get carried right through into the resulting yarn and cloth, and must be removed before selling it to the customer. Leaf remaining in yarn after being woven into cloth causes an effect exactly opposite to that of nep. The leaf resists the dye or prevents the dye from coming into contact with the cotton beneath it. The leaf is afterwards removed, leaving white spots where each particle of leaf has been. The presence of other foreign matter, such as cotton stalks, straw, sand, cotton seeds, etc., should never be allowed, and the ginner who permits his machinery to become so dilapidated as to pass such impurities into the lint, should not have any cotton grower's custom. The bark from the stalk splits up into innumerable fibres, which cause great trouble by breaking down the ends in the spinning-room. Seeds cause further inconvenience in that they are broken up and carried forward in the yarn. These husks are very stiff, and should the yarn be used upon knitting machines, each seed mote will break a needle in the knitting machine, a most serious business for all concerned, and in the end the spinner will refuse to buy his cotton from the same source, which in its turn eventually has its effect upon the grower who produced that cotton.

GINNING.

The ginning of cotton is the first mechanical process through which cotton is passed, and I am sorry to say this process is often unsatisfactorily carried out. Of the two types of gins the saw gin is the one which can be more detrimental to the cotton fibre, whilst cotton of a staple longer than $1\frac{1}{4}$ ins. should never be saw ginned.

Bad ginning of cotton is a crime perpetrated upon the cotton grower usually without the latter's knowledge. Gineries are only run during the picking season, and keen competition has made it necessary for the ginner to run as quickly and as long as he is able in order to obtain as full a production as possible. This practice of fast ginning absolutely ruins the cotton fibre. Such cotton is neppy, gin cut, i.e., a large proportion of the fibres will be cut short—result: a wasteful cotton for which the cotton planter will receive only a low price. There is a certain maximum speed of the saw gin most suitable for each length of staple which should never be exceeded. I may state here that the United States Government Experimental Ginning Station at Leland, Mississippi, is doing splendid pioneer work with the object of improving that country's ginning technique. It is to be hoped that the ginner throughout the Belt will adopt voluntarily the results of this station's experiments.

I have already mentioned that cotton should never be ginned when damp; neppy cotton will most certainly be the result.

Ginners should experiment for themselves as to what speeds suit the cotton of their district. Another point which should be noted is that the seed cotton should not be fed too rapidly to the breast roll, as this gives similar results to fast ginning.

Roller gins are highly satisfactory from the point of view of the quality of cotton they turn out, but as regards their output and supervision they are far and away behind the saw gin. There is a very real need for a roller gin where the seed cotton is fed to it pneumatically, but the difficulty in this respect is that the feed must be carefully regulated. There is scope here for the inventor, for each roller gin is fed by hand, and it is only possible to install them where labour is cheap.

BALING.

Cotton bales should be approximately of the same uniform weight, and should be sold on a net weight basis. Tare and bands also should be standardized. Cotton baled in a cotton covering would enjoy a readier sale among fine spinners than jute-covered cotton. Jute fibres mixed in with the cotton cause a very large percentage of the breaks in spinning. Spinners are now receiving large quantities of bales from Brazil, covered with a cheap, light, closely-woven cotton cloth, and this covering is proving eminently satisfactory, both during transportation and spinning.

COTTON SEED.

The means to be adopted by the new cotton-growing countries to improve cotton shipments can only be generally indicated in this paper, as individual study of the conditions of each country by an expert is necessary on the spot.

As a general rule, however, every new district should decide upon growing only one variety of cotton, in order to obviate the mixing of the seed at the gins and cross-pollination, with the resulting rapid deterioration of the seed and the quality of the cotton. The gins are usually—in fact, practically always—the cause of seed mixture, and gin-run seed should never be planted if the strain of a cotton is to be kept high, except in a “one-variety cotton community” or where a ginning factory gins only one type of cotton. Where this is impracticable the law should not allow the gin to sell cotton-seed for planting purposes, unless the gins are thoroughly cleaned out when a new variety is to be passed through the gin. In Egypt, where the seed supply is under the control of the Government, gins licensed to sell seed for planting purposes are taken entirely to pieces, and every seed lying in corners, bolt-holes, etc., in each gin and the conveyers is cleaned out before a new variety is passed through. The cleaning and examination of the gin is so thorough that the process reminds one of a search for deadly microbes or bacteria. Without exaggeration, the presence of one single seed of an inferior growth will do as much damage to a superior strain of seed when it is planted as any major cotton pest. The seed is the key to the supply of good cotton, and the Egyptian Government has only retained her position as a supplier of good cottons by means of the rigid control of her cotton-seed supply. A sample of every sack of cotton planting seed is examined by Government officials before being passed and certified as suitable

for sale to the planter; all uncertified seed is used by the oil factories. That the seed supply of America should be left to individual firms, and above all to the ginner, is almost a crime, and is bound to lead to rapid seed degeneration. The State should own nucleus seed farms and ginning plants, and no other but Government grown and ginned seed should be used for planting purposes. The seed raised on the seed farms should then be passed on to competent planters and grown subject to Government inspection. The resulting cotton will naturally be ginned at the Government-controlled gins. This is one aspect of the situation which should not be treated from an individual point of view, as one single field of cotton from poor seed will lead to the ruin of the reputation of a whole county as a producer of high-class cotton, and frustrate the good intentions and endeavours of the rest of the community.

PRICE.

From the point of view of the grower, perhaps the most important factor is the question of price, and here I wish to take the opportunity of removing a serious misconception on the part of the average cotton grower. Certain growers I have met in America appear to labour under the impression that the spinner continuously desires low prices, and the lower the better. This is far from the truth. Prices fall when demand slackens. This decreased demand is a direct result of fewer yarn orders received by the spinner. Spinners actually prefer a steady market, or a steadily rising market. The grower who believes spinners want cotton prices to fall should remember that the spinner has far more capital invested in cotton yarn stocks than the average cotton planter has in cotton, and should cotton fall in price, spinners stand to lose far more money in the aggregate than the planters. I wish to stress the point that the spinners desire to see a prosperous cotton-growing industry, so that all concerned therein may be in a position to buy more cotton goods, and thus help to turn the wheels of finance and trade, with the ultimate object of increasing the consumption of cotton goods to the benefit of all concerned.

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AUSTRIA.

SPINNING SECTION.

During the last few months the cotton-spinning section has worked at approximately 85 per cent. of its full capacity on single shift, although deliveries for exports have shown a decided retrogression. Sales for both the home and export markets show a large decrease during the first quarter of the year. It is therefore expected that there will be a reduction of production during the month of July.

Imports during the first four months of 1935 totalled in all 5,851 metric quintals as against 4,465 metric quintals for the same period in the previous year. This is an increase of 31 per cent.

Exports during the first four months of the current year reached 28,421 metric quintals compared with 22,218 metric quintals, or an increase of 28 per cent. for the same period in 1934. Nevertheless, the reduced sale which developed during the last two months is not shown in these figures.

The future outlook for the development of the cotton trade cannot be forecasted with any degree of accuracy, although it is presumed that in view of the difficulty in making exports, further restrictions will have to be brought into force.

WEAVING SECTION.

The weaving section has, on the whole, been fully occupied, although only on a single-shift basis, for a portion of the looms has been working on two shifts, and a similar number has been idle during the same period.

The total production during the last few months has remained comparatively stable, although accompanied by low prices in view of the intense competition in prices, which have been under cost of production.

Imports during the first four months of the current year have been as follows:—

Greys	5,723	as against	6,054	metric quintals.
Bleached	523	"	603	" "
Dyed	425	"	501	" "
Prints	397	"	265	" "
Coloured woven ..	937	"	993	" "
	<u>8,005</u>		<u>8,416</u>	

Also in the weaving section no definite prophesies in regard to the development of business in the near future can be made, although it is assumed that a decrease is more probable than an increase in the amount of business.

The following is the original report in German:—

BAUMWOLLSPINNEREI.

In den letzten Monaten war die Spinnerei mit ungefähr 85 % ihrer Kapazität in einfacher Schicht beschäftigt, doch zeigen die Exportablieferungen einen deutlichen Rückgang. Auch die Verkäufe für das In- und Ausland sind gegenüber dem ersten Quartal des Jahres erheblich zurückgeblieben. Es ist daher schon für den laufenden Monat mit einer Verringerung der Produktion zu rechnen.

Die Einfuhr hat in den ersten 4 Monaten des Jahres 1935 insgesamt 5,851 m.q. gegenüber 4,465 m.q. in der gleichen Periode des Vorjahres betragen und zeigt somit eine Steigerung um 31 %.

Die Ausfuhr erreichte in den ersten 4 Monaten des laufenden Jahres 28,421 m.q. gegenüber 22,218 m.q. in der gleichen Periode des Vorjahres, hat sich somit um rund 28 % gehoben. Allerdings kommt in diesen Ziffern die rückläufige Bewegung, die sich in den beiden letzten Monaten vollzogen hat, noch nicht zum Ausdruck.

Die Aussichten für die Entwicklung der Beschäftigungsverhältnisse in der nächsten Zukunft sind nicht mit Sicherheit zu beurteilen, doch ist es, wie schon früher erwähnt, wahrscheinlich, dass infolge der Schwierigkeiten im Export eine Drosselung der Erzeugung einsetzen wird.

BAUMWOLLWEBEREI.

Die Webereien waren im Durchschnitt voll beschäftigt, jedoch nur auf Basis der einfachen Schicht, da ein Teil der Stühle in zwei Schichten gelaufen ist, während eine gleiche Zahl ausser Betrieb gesetzt ist. Die Gesamtproduktion ist in den letzten Monaten ziemlich stabil geblieben, doch vollzieht sich infolge des verschärften konkurrenzkampfes eine fortschreitende Senkung der Preise, welche — namentlich in Rohware — bereits unter dem Selbstkostenniveau liegen.

Die Einfuhr hat in den ersten 4 Monaten des laufenden Jahres betragen:

In Rohware	5,723	gegenüber 6,054 m.q.
„ gebleichter Ware	523	„ 603 „
„ gefärbter	425	„ 501 „
„ bedruckter	397	„ 265 „
„ buntgeweber	937	„ 993 „
	<u>8,005</u>	<u>8,416</u>

Auch bezüglich der Baumwollweberei kann eine verlässliche Prognose hinsichtlich der Geschäftsentwicklung der nächsten Zukunft schwer gestellt werden, doch ist eher mit einem Rückgang als mit einer Steigerung der Erzeugung zu rechnen.

(Verein der Baumwollspinner und Weber Oesterreichs.)

CHINA.

Yarn production was curtailed during 1934 by reason of the fact that cotton prices were too high and that yarn prices were low. In addition, stocks of yarn had accumulated, and sales were comparatively few and made at unprofitable prices.

The causes of this depression in China have been accumulative. The various troubles which have occurred in Manchukuo, Shanghai, Jehol, Szechuen, Fukien—banditry and floods along the Yangtse River have all contributed to impoverish the populace and reduce their buying power.

Although in 1934 the situation was more settled, the aftermath of these events was felt more in 1934. The Manchurian market was lost to the Tientsin and Shansi mills, which have now been compelled to sell their yarns in the south of China, and more often than not these yarns have to be smuggled out through the Great Wall.

The high price of cotton was due to reduced production, owing to the unsettled state of the country, but it should be remarked that efforts are being made to increase production in the future.

The production of piece goods in 1934 showed an increase of 3,353,537 pieces above 1933. The imports of cotton piece goods have been lighter, due to Government tariff measures. Imports during the last four years were as follows:—

1931	...	...	...	188,000,000	dollars.
1932	...	...	...	139,800,000	„
1933	...	...	...	71,250,000	„
1934	...	...	...	48,097,590	„

The decrease in cotton goods imports is chiefly due to the increased home production; the decrease in the buying power of the population due to the depression and internal troubles, the increase in import duties on piece goods and the disparity between gold and silver values.

During May, Chinese and Japanese mills located in Shanghai were reported operating at 65 to 85 per cent. capacity respectively, in both cases representing a 10 per cent. reduction compared with the corresponding month last year. Further reductions are anticipated.

CZECHO-SLOVAKIA

The position of the Czecho-Slovak cotton-spinning section has not improved during the second quarter of the year. Yarn prices are, furthermore, extraordinarily low and barely cover the cost of production.

The degree of occupation is approximately just over half of full capacity and should remain at this figure in view of the number of orders on hand.

Exports of cotton yarns and goods during the first quarter of this year have remained approximately the same as in the previous year, as may be seen from the following figures:—

				1st Quarter, 1935	1st Quarter, 1934
				quintals	quintals
Cotton yarn	..	..	..	28,003	30,069
Cotton goods	..	..	..	14,840	19,970
Cotton knitted goods	..	..	..	4,060	3,546
Cotton embroidered goods	..	..	..	1,734	1,471
Total	..	..	..	48,637	49,056

The following is the original report in German:—

Die Lage der csl. Baumwollspinnereien hat sich auch im 2. Quartal des Jahres nicht gebessert. Die Garnpreise sind weiterhin ausserordentlich niedrig und reichen kaum aus, um die Spinnkosten zu decken. Der Beschäftigungsgrad liegt etwas über der Hälfte der Gesamtkapazität und dürfte sich infolge des hohen Orderstandes auch weiterhin ungefähr auf dieser Höhe halten.

Die Ausfuhr von Baumwollgarnen und -Waren hat sich im 1. Quartal d.J. auf etwas derselben Höhe gehalten, wie in der gleichen Zeit des Vorjahres, wie die nachfolgenden Ziffern zeigen:—

				I Quartal 1935	I Quartal 1934
				q.	q.
Baumwollgarne	..	..	..	28,003	30,069
Baumwollgewebe	..	..	..	14,840	13,970
Baumwoll-Wirk-u Strickwaren	..	..	..	4,060	3,546
Baumwoll-andere Waren	..	..	..	1,734	1,471
Zusammen	..	..	..	48,637	49,056

(Wirtschaftsverband Csl Baumwollspinnereien.)

ENGLAND.

SPINNING SECTION.

Whilst the volume of trade of the last six months has been maintained, compared with that of the similar preceding period, prices both for cloth and yarn have remained unsatisfactory.

The Cotton Spinning Industry Bill, the scope of which is to deal with surplus spinning machinery, has received its first reading in the House of Commons. It is hoped that the measure will assist materially in the concentration of production and the elimination of cut-throat competition.

These and other contemplated forms of reorganization are being watched sympathetically and with great interest by the trade in general.

WEAVING SECTION.

The activity in the weaving section, although there has been the seasonal diminution in exports, shows a slight improvement upon last year, but margins continue to be extremely unsatisfactory,

and prices offered to manufacturers are in many cases unacceptable. The volume of trade in higher-class cotton and rayon goods shows no appreciable change as compared with last year.

A considerable proportion of plant in the manufacturing section is idle owing to lack of orders at remunerative prices, and unless this latter factor can be remedied, there appears to be little likelihood of any marked change in the state of trade.

FRANCE.

During the month of May an improvement in the demand has revealed itself, in both the spinning and weaving sections of the industry. It can scarcely be ascertained, however, whether this improvement is to be attributed to the seasonal activity which generally makes itself felt at this period of the year or to the monetary doubts which are prevailing at the moment. Moreover, this improvement was not sustained in June, and has only had a slight effect upon prices, which remain very poor.

At the end of May the degree of occupation in the factories, taking into account machinery completely stopped as short time worked by the remainder of the industry working part time, could be estimated at about 58 or 59 per cent. for the spinning industry (the fine spinning sections remaining, however, at less than 50 per cent.) and at 62 or 63 per cent. for the weaving industry. It must be mentioned that the agreements which were drawn up for the application of concerted short-time working ceased as from June 1 to regulate the hours of work. It is to be feared that this will only result in fresh disequilibrium between production and consumption, as it may be apt to cause another fall in prices.

No wage modifications have taken place during the period under review

The following is the original report in French:—

Au cours du mois de mai une amélioration de la demande a été constatée aussi bien en filature qu'en tissage, sans qu'on puisse toutefois déterminer pour quelle part elle doit être attribuée soit au mouvement saisonnier qui se produit généralement à pareille époque, soit aux craintes monétaires qui ont pu se manifester.

Cette amélioration ne s'est d'ailleurs pas maintenue en juin et n'a eu qu'une très faible répercussion sur les prix qui continuent à être mauvais.

Fin mai le degré d'activité des usines, compte tenu tant de l'outillage complètement arrêté que du chômage pratiqué par l'outillage resté en activité partielle, pouvait être évalué à environ 58 ou 59 pour cent pour la filature (tout en se maintenant à moins de 50 pour cent pour la filature de numéros fins) et à 62 ou 63 pour cent pour le tissage. — Il y a lieu de signaler que les ententes qui s'étaient constituées pour l'application d'un chômage concerté ont cessé à partir du 1er juin de régler la durée du travail. — Il est à craindre qu'il n'en résulte un nouveau déséquilibre de la production et de la consommation ayant lui-même pour effet un nouvel affaissement des prix.

Aucune modification de salaires n'est intervenue au cours du trimestre en revue:—

IMPORTATIONS ET EXPORTATIONS D'ARTICLES COTONNIERS.

IMPORTS AND EXPORTS OF COTTON GOODS.

						Premier trimestre <i>First quarter</i> (Quintaux Métriques) (Metric quintals)	
						1934	1935
A—Importations: (<i>Imports</i>)							
1.	Fils de coton	..	..	..	..	1,682	1,300
	(<i>Cotton yarn</i>)						
2.	Tissus de coton et autres articles manufacturés	..				2,807	2,501
	(<i>Cotton cloth and other manufactured articles</i>)						
B—Exportations: (<i>Exports</i>)							
1.	Fils de coton: Exportations totales	..	..	..		16,212	25,504
	(<i>Cotton yarn—total exports</i>)						
	Destinations: (<i>Countries of destination</i>)						
	Algérie, Colonies et Pays de Protectorat	..	..	..		3,960	4,711
	(<i>Algeria, French colonies and protectorates</i>)						
	Marchés étrangers	..	..	..	..	12,252	20,793
	(<i>Foreign markets</i>)						
2.	Tissus de coton: Exportations totales	..	..	..		107,232	85,107
	(<i>Cotton cloth—total exports</i>)						
	Destinations: (<i>Countries of destination</i>)						
	Algérie, Colonies et Pays de Protectorat	..	..	..		91,003	75,605
	(<i>Algeria, French colonies and Protectorates</i>)						
	Marchés étrangers	..	..	..	..	16,229	9,502
	(<i>Foreign markets</i>)						

(*Syndicat Général de l'Industrie Cotonnière Française.*)

GERMANY.

SPINNING SECTION.

During the second quarter of 1935 the degree of activity in the spinning section has remained unchanged.

The demand for cotton yarns has remained on the whole satisfactory; in certain sections of the industry there has been noticeable a certain slackening in demand. The degree of occupation in the mills was, on the whole, as reported in the previous quarter.

The following is the original report in German:—

Auch im Verlauf des 2. Vierteljahres 1935 hat sich die geschäftliche Lage der deutschen Baumwollspinnerei im allgemeinen nicht wesentlich geändert.

Die Nachfrage nach Baumwollgespinnsten blieb durchweg befriedigend; in einzelnen Teilen der verarbeitenden Industrie machte sich allerdings ein Nachlassen des Bedarfes bemerkbar.

Der Beschäftigungsgrad der Betriebe konnte im allgemeinen auf dem bisherigen Stand gehalten werden.

(*Fachgruppe Baumwollspinnerei der Wirtschaftsgruppe Textilindustrie.*)

WEAVING SECTION.

The position in the South German cotton weaving industry has remained unchanged during the second quarter of 1935. The degree of occupation in the first quarter of 1935 was carried through to the second quarter.

Demand has been quite satisfactory.

The following is the original report in German:—

Die geschäftliche Lage der süddeutschen Baumwollweberei hat sich im 2. Quartal 1935 nicht wesentlich verändert. Der Beschäftigungsgrad des 1. Quartals 1935 konnte im allgemeinen auch im 2. Quartal 1935 aufrecht erhalten werden. Die Nachfrage war befriedigend.

(*Fachuntergruppe Rohweberei der Fachgruppe Baumwollweberei.*)

HOLLAND.

COTTON SPINNING.

Conditions in the spinning section of the trade are far from satisfactory. Most spinning mills are working short time, and although prices of yarn are fairly steady, these are in most cases not sufficient to cover the cost of production. Imports of cotton yarn from England remain fairly large and imports from Belgium, especially in twofolds, have increased since the recent further devaluation of the Belgian franc.

COTTON WEAVING.

The employment in the weaving mills seems to have stabilized on a rather low level, which will mean a production of about two-thirds of 1929-30. The export trade is practically limited to those markets where quotas are imposed, and the Dutch importers only obtain a share of these quotas in proportion to their former exports. The demand from the home trade did not attain its usual size in the spring; cheap imports from other countries and the diminishing buying power in this country (owing to the large number of unemployed) seem to be the chief causes for the unsatisfactory state of affairs in the cotton industry.

HUNGARY.

As a result of the reduced buying power of the population on one hand and the difficulty of obtaining raw cotton on the other, the degree of occupation in the cotton industry in recent times has been the cause of considerable decreased activity.

In the cotton-spinning section, the decrease in spinning activity

is about 20 per cent., and in the weaving section and finishing sections about 30 per cent. of full-time working.

The position of the knitting and embroidery industry has been unsatisfactory since the beginning of the year, and no further alteration has taken place.

The following is the original report in German:—

Infolge der Verminderung der Kaufkraft der Bevölkerung einerseits und der Schwierigkeiten der Rohbaumwollbeschaffung andererseits ist in der Beschäftigung der Baumwollindustrie in der letzten Zeit ein ziemlicher Rückgang eingetreten. Bei den Baumwollspinnereien ist dieser Rückgang der Beschäftigung auf etwa 20 %, bei den Baumwollwebereien und Ausrüstungsfabriken auf etwa 30 % zu veranschlagen. Die Lage der Strickerei- und Wirkereiindustrie ist seit Anfang des Jahres ungünstig und ist in dieser Lage weiterhin keine Veränderung eingetreten.

(Magyar Textilgyárosok Országos Egyesülete.)

ITALY.

Results achieved in the Italian cotton industry during the second quarter of the current year have served to confirm the improvement which took place during the preceding months.

An increased activity has been shown by the mills as a result of the greater demand for yarns and cloth for the home market.

In consequence, manufacturers' sales have been larger, and better prices have been obtained.

At the end of June, visible stocks in the factory warehouses were considerably reduced, whereas orders on hand continue to be very heavy.

This favourable situation has given rise to a big increase in the number of workpeople employed.

In the export trade, on the other hand, conditions on the whole remained stationary, with no definite sign of any improvement upon the results of last year.

The following is the original text in Italian:—

Nel 2° trimestre di quest'anno l'andamento dell'industria cotoniera italiana ha confermato il miglioramento verificatosi nei mesi precedenti.

Infatti l'attività dei cotonifici ha progredito per effetto della maggiore richiesta di filati e tessuti da parte del commercio interno.

Di conseguenza sono state in aumento le vendite degli industriali, ed i relativi prezzi spuntati.

Alla fine di giugno i magazzini delle fabbriche risultano molto alleggeriti mentre gli impegni di lavoro sono sempre forti.

Questa favorevole situazione ha permesso un buon incremento nell'occupazione operaia.

Le condizioni dell'esportazione sono invece rimaste stazionarie nel complesso, senza alcun segno effettivo di miglioramento rispetto allo scorso anno.

(Associazione Italiana Fascista degli Industriali Cotonieri.)

JAPAN.

According to the Mitsubishi monthly report for May, 1935, cotton yarn continued firm in sympathy with the advance of American raw cotton and influenced by the decision to restrict output by an additional 3.8 per cent. during the next two months (June and July). Quotations, however, collapsed at the end of the month, due to the legislative development in the United States.

Production was less than the output in April, due to a decrease in working days.

Exports of cotton tissues showed a sharp reduction compared with the previous month and May, 1934:—

		May, 1935	April, 1935	May, 1934
Cotton yarn, average (per bale)	yen	212.19	198.50	211.88
do., Production (bales)		303,049	307,699½	280,452
Export of cotton tissues (in 1,000 yen)		42,583	44,253	48,523

POLAND.

DEGREE OF OCCUPATION OF THE COTTON MILLS:

(four weeks periods):

Mar. 18 to April 14, 1935	107.00%	of full time production (48 hours weekly)
April 14 to May 12	97.67%	" " " "
May 13 to June 9	106.87%	" " " "

EXPORTS:

	Cotton yarn		Piece goods		Contents of cotton yarn	Clothing Contents of cotton yarn
	value zl.	weight kg.	value zl.	weight kg.	kg.	kg.
April, 1935 ..	40,703	12,047	170,407	41,874	18,617	46,946
May, " ..	43,536	13,066	80,193	18,593	6,761	31,832
June, " ..	4,054	1,696	115,689	24,983	8,903	41,709

(*Zrzeszenie Producentów Przędzy Bawełnianej w Polsce.*)

SWEDEN.

Business conditions in the cotton industry generally are not so promising as previously. Due probably to an overstocking following last season's brisk demands, the retail trade has shown a marked tendency to fall off in regard to orders. Foreign competition has grown stronger, especially from the Baltic countries.

No alteration has taken place in regard to wages.

(*Svenska Bomullsfabrikantföreningen.*)

SWITZERLAND.

The quarter under review has shown a slight reduction in demand, and in consequence the spinning section has experienced increased short time. Furthermore a reduction in demand was experienced by the doubling section. The coarse, the medium fine

and the fine weaving sections, and especially those firms working for export, experienced an increased demand in comparison with the previous quarter; at the same time the coloured weaving section has been able to regain part of its lost markets. On the whole, there has been a restriction of production, namely, in the spinning and doubling sections, of from 20 and 30 per cent., in the weaving section from 10 to 45 per cent.

The following is the original report in German:—

Das Berichtsquartal brachte der Spinnerei einen leichten Absatzrückgang und damit vermehrte Produktionseinschränkungen; noch ausgeprägter trat das Abflauen der Nachfrage in der Zwirnerei in Erscheinung. Grob, Mittelfein- und Feinweberei, davon ganz besonders die exportorientierten Betriebe, bussten im Vergleich zum Vorquartal ebenfalls an Umsatz ein, während die Buntweberei eher wieder einen Teil des verlorenen Marktes zurückgewann. Auf der ganzen Linie bestehen erhebliche Produktionsdrosselungen, die in Spinnerei und Zwirnerei zwischen 20 und 30 Prozent, in der Weberei zwischen 10 und 45 Prozent liegen.

(Schweizerischer Spinner-Zwirner und Weber-Verem.

U.S.A.

Through the courtesy of the Cotton Textile Institute, New York, we are able to publish figures of cotton cloth production since the beginning of 1935 for each week up to the end of April, together with the corresponding figures for 1934.

SUMMARY OF ALL COTTON CLOTH PRODUCTION REPORTED TO THE COTTON-TEXTILE INSTITUTE ON A YARDAGE BASIS

1934	Production	1935	Production
Jan. 6 ..	104,830,000	Jan 5 ..	114,949,000
" 13 ..	119,903,000	" 12 ..	127,214,000
" 20 ..	123,861,000	" 19 ..	129,972,000
" 27 ..	117,428,000	" 26 ..	127,233,000
Feb. 3 ..	125,295,000	Feb. 2 ..	131,294,000
" 10 ..	126,483,000	" 9 ..	130,204,000
" 17 ..	127,894,000	" 16 ..	132,271,000
" 24 ..	121,996,000	" 23 ..	126,389,000
Mar. 3 ..	126,377,000	Mar. 2 ..	130,173,000
" 10 ..	130,036,000	" 9 ..	128,116,000
" 17 ..	132,231,000	" 16 ..	126,485,000
" 24 ..	131,004,000	" 23 ..	126,160,000
" 31 ..	126,787,000	" 30 ..	123,359,000
April 7 ..	129,005,000	April 6 ..	117,622,000
" 14 ..	131,202,000	" 13 ..	111,428,000
" 21 ..	127,274,000	" 20 ..	108,519,000
" 28 ..	130,997,000	" 27 ..	102,943,000

The monthly report of the Census Bureau shows that the consumption of lint cotton by domestic mills in June amounted to 386,000 bales, against 469,000 bales in May and 363,000 bales in June last year. This brings the total for the season to 4,952,000 bales, compared with 5,341,000 bales in the same period a year ago. The exports for the month are returned at 345,000 bales, excluding linters, against 279,000 bales in May and 459,000 bales in June last year, making 4,561,000 bales for the season to date, against 7,229,000 bales a year ago. Stocks in the hands of manufacturers amount to 883,000 bales, against 979,000 bales last month and 1,326,000 bales last year, and in outside warehouses to 6,078,000 bales, against 6,560,000 bales and 5,986,000 bales. Spindles active during June were 22,709,000, against 23,028,000 in May and 24,690,000 in June last year.

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Revised Estimate, 1934.

The Crop Reporting Board of the United States Department of Agriculture, from the reports and data furnished by crop correspondents, field statisticians, co-operating State Boards (or Departments) of Agriculture and Agricultural Colleges, and Census reported ginnings makes the following revised estimates of the cotton crop of 1934.

State	Area in Cultivation July 1*		Area Picked*		Yield of Lint Cotton Picked per Acre* (Pounds)		Production† (1,000 bales—500 lb gross)		Ginnings 1934 Crop as reported by Census May 17, 1935	
	1933	1934	1933‡	1934	1933	1934	1933	1934	Bales (500 lb. gross)	Bales (500 lb. gross)
Virginia ..	76	59	65	56	275	290	37	35	32,961	
N. Carolina ..	1,320	961	1,090	951	300	316	684	629	631,420	
S. Carolina ..	1,811	1,315	1,379	1,302	255	250	735	681	681,791	
Georgia ..	2,855	2,124	2,147	2,103	248	220	1,105	968	971,425	
Florida ..	119	92	94	91	141	146	28	28	28,857	
Missouri ..	473	319	356	316	340	368	253	242	233,864	
Tennessee ..	1,162	748	884	714	240	260	148	414	404,816	
Alabama ..	3,210	2,144	2,378	2,133	195	213	989	950	952,245	
Mississippi ..	3,820	2,510	2,559	2,485	194	220	1,159	1,143	1,142,706	
Louisiana ..	1,787	1,172	1,295	1,100	178	200	477	485	484,668	
Texas ..	16,050	10,816	11,478	10,297	185	112	4,428	2,406	2,407,979	
Oklahoma ..	4,133	2,943	2,915	2,708	205	56	1,266	317	317,887	
Arkansas ..	3,543	2,190	2,583	2,162	193	192	1,041	867	874,782	
New Mexico ..	129	100	96	90	465	474	94	89	86,618	
Arizona ..	140	136	118	116	391	440	96	117	116,363	
California ..	223	225	208	223	500	556	217	259	259,551	
All other ..	26	29	23	28	311	282	15	16	14,040	
U.S. total ..	40,852	27,883	29,978	26,967	208.5	170.9	13,047	9,636	9,636,073	
Lower Calif. (Old Mexico)¶	54	66	54	55	159	190	18	22	21,880	

* Estimates of acreage and yield per acre are comparable with the revised acreage and yield estimates for the years 1886 to 1931 inclusive, as published in a special report on May 10, 1933. These estimates are not comparable with any acreage and yield per acre estimates by the Department of Agriculture published prior to May 10, 1933.

† Bales rounded to thousands, allowances made for interstate movement of seed cotton for ginning and added for U.S. total.

‡ Area in cultivation July 1, less removal of acreage reported by the Agricultural Adjustment Administration, less abandonment on area not under contract.

§ Inc. Pima long staple, 28,000 acres, yield 242 lb. per acre, production 14,000 bales.

¶ Not included in California figures, nor in United States total.

¶ Ginnings 22,086 running bales, as enumerated by California Crop Reporting Service.

COMMENTS ACCOMPANYING COTTON REPORT OF MAY 22, 1935.

The Crop Reporting Board, in revising statistics of acreage, yield per acre and production of the 1934 cotton crop, estimates the area in cultivation in the United States on July 1 to have been 27,883,000 acres; the area harvested 26,087,000 acres; and the yield of lint cotton to have been 170.9 lbs. per acre. The report of the Bureau of the Census, published on May 17, placed final ginnings for the 1934 crop at 9,636,073 equivalent 500-lb. bales.

The acreage harvested in 1934 was approximately 10 per cent. smaller than the harvested acreage in 1933, and 33.5 per cent. smaller than the average harvested acreage for the period of 1928-1932.

The revised estimates of planted and harvested acreage for the United States are about 2 per cent. below the preliminary estimates made last December. The acreage estimates are in substantial agreement with the acreages indicated by statistics developed in the Agricultural Adjustment Administration's programme. The yield per acre as estimated is about six-tenths of 1 per cent. above the December estimate.

Production in 1934 of 9,636,000 bales is about 3,411,000 bales, or 26 per cent. below the 1933 crop, and 5,030,000 bales or 34 per cent. below average production in the five-year period 1928-1932.

Forecasts of cotton production made by the Crop Reporting Board during the 1934 season and percentage comparisons with final production are as follows: August 1, 9,195,000 bales, 4.6 per cent. below final production; September 1, 9,252,000 bales, 4 per cent. below; October 1, 9,443,000 bales, 2 per cent. below; November 1, 9,634,000 bales, practically the same as the final output; December 1, 9,731,000 bales, 1 per cent. above final production.

ACREAGE REPORT, 1935.

The report issued on July 8 by the Crop Reporting Board on the cotton acreage under cultivation on July 1 indicates an increase of 4.5 per cent. on the area planted last year. The total acreage is returned at 29,166,000, against 27,883,000 acres planted in 1934, 40,852,000 acres in 1933, and 36,542,000 acres in 1932. Lower California (Mexico) is estimated to have 115,000 acres under cotton, against 62,000 acres last year, but this figure is not included in the United States total, although most of the cotton passed in the United States.

The following table gives details, by States, with comparisons in thousands of acres):—

	1935	1934	1933	1932
Virginia	58	59	76	71
North Carolina	999	961	1,320	1,261
South Carolina	1,420	1,315	1,811	1,678
Georgia	2,251	2,124	2,855	2,705
Florida	94	92	119	107
Missouri	325	319	473	410
Tennessee	785	748	1,152	1,081
Alabama	2,337	2,144	3,210	3,061

ACREAGE REPORT, 1935—*continued*

				1935	1934	1933	1932
Mississippi .. .. .	..	..	..	2,661	2,510	3,820	3,897
Louisiana .. .. .	..	..	..	1,269	1,172	1,767	1,702
Texas .. .. .	..	..	..	11,357	10,816	16,050	13,592
Oklahoma .. .. .	..	..	..	2,737	2,943	4,133	3,171
Arkansas .. .. .	..	..	..	2,343	2,190	3,548	3,436
New Mexico .. .. .	..	..	..	110	100	129	114
Arizona .. .. .	..	..	..	152	136	140	114
California .. .. .	..	..	..	225	225	223	124
Other States .. .. .	..	..	..	23	29	26	18
Total .. .. .	..	..	..	<u>29,166</u>	<u>27,883</u>	<u>40,852</u>	<u>36,542</u>

BUREAU COMMENTS.

In a statement supplemental to the acreage report the Washington Department of Agriculture says that an increase in the area under cotton ranging from 4 per cent. in North Carolina to 10 per cent. in Louisiana is shown by all the major cotton-growing states except Oklahoma, where there is an estimated decrease of 7 per cent. This decrease is due partly to unfavourable planting weather and partly to the relative high percentage of acreage under contract with the Agricultural Adjustment Administration for the first time. In all states the increases granted to producers who signed two-year acreage-reduction contracts last year have been partly offset by reductions made by producers offering contracts to the Agricultural Administration this year for the first time.

Report on Reduction in Cotton Yields from Stated Causes in 1934.

The Crop Reporting Board issued the following report in May last:—

“ The total reductions from a full yield of cotton in 1934, from all causes, were somewhat more than usual, according to the reports of crop correspondents. The total reductions from various causes are reported to have been 42.56 per cent. of a normal or full crop, compared with 28.6 per cent. reduction reported in 1933, 42.7 per cent. in 1932, 27.8 per cent. in 1931, and 47.1 per cent. in 1930.

Deficient moisture, or drought, was the most important of the various causes of loss, and was reported as being responsible for 20.7 per cent. reduction in yield, compared with 6.8 per cent reported in 1933, 8.0 per cent. in 1932, and 8.3 per cent. in 1931. Relatively small loss was reported as being caused by excessive moisture, this being charged with causing only 1.9 per cent. loss, compared with 2.6 per cent. in 1933, 3.9 per cent. in 1932, and 2.6 per cent. in 1931.

“ Other climatic ” influences, including floods, frost, heat and hot winds, were the second most important factors in causing loss, being charged with 7.29 per cent., compared with 3.7 per cent. in 1933, 6.1 per cent. in 1932, and 3.5 per cent. in 1931.

Boll-weevils are reported to have caused the loss of 7.26 per cent. of the crop, compared with 9.1 per cent. in 1933, 15.2 per cent. in 1932, and 8.3 per cent. in 1931. Other insects are reported as causing a loss of 1.56 per cent., which is a little below average. Loss from plant diseases is reported as 1.91 per cent. of the crop, and "all other" causes damaged the crop 1.93 per cent.

This statement on losses is based upon reports of crop reporters made in March, on a crop damage inquiry in which the reporters were asked to report the per cent. of a normal yield per acre of cotton harvested the preceding year, the per cent. loss in yield, and to distribute the loss to stated causes. The resulting indicated percentages represent the consolidated judgment of the crop reporters, and are useful as an index of relative losses from the stated causes.

Details by States follow:--

*United States Department of Agriculture, Bureau of Agricultural Economics,
Washington, D.C.*

**COTTON: REDUCTION FROM FULL YIELD PER ACRE FROM STATED
CAUSES—1932, 1933 AND 1934**

State	Deficient moisture			Excessive moisture			Other climatic		
	1932	1933	1934	1932	1933	1934	1932	1933	1934
	%	%	%	%	%	%	%	%	%
Virginia ..	33	9	1	0	0	8	2	9	1
North Carolina ..	13	7	1	1	1	5	4	4	2
South Carolina ..	12	7	4	2	1	4	6	3	4
Georgia ..	5	6	4	6	1	4	4	3	3
Florida ..	5	7	5	7	3	5	2	3	4
Missouri ..	9	7	19	1	4	0	4	4	9
Tennessee ..	6	3	16	6	2	1	5	2	5
Alabama ..	2	4	2	8	4	4	3	2	3
Mississippi ..	3	3	6	8	6	2	5	3	5
Louisiana ..	10	5	15	5	10	2	7	7	9
Texas ..	9	9	34	2	1	1	8	4	8
Oklahoma ..	10	8	47	1	2	0	7	4	16
Arkansas ..	10	8	27	4	3	0	6	4	12
Average of 13 States	8.0	6.8	20.7	3.9	2.6	1.9	6.1	3.7	7.3

State	Plant diseases			Boll weevil			Other insects		
	1932	1933	1934	1932	1933	1934	1932	1933	1934
	%	%	%	%	%	%	%	%	%
Virginia ..	1	1	2	12	7	4	0	1	1
North Carolina ..	2	2	2	14	8	7	1	1	1
South Carolina ..	3	2	2	15	14	11	2	2	1
Georgia ..	3	2	2	22	8	12	3	2	1
Florida ..	5	2	2	25	9	18	2	1	1
Missouri ..	5	3	2	0	0	0	1	1	1
Tennessee ..	3	3	2	9	8	2	2	1	1
Alabama ..	3	2	2	21	12	11	2	1	1
Mississippi ..	3	2	2	25	15	14	2	1	1
Louisiana ..	3	2	2	15	11	9	3	2	2
Texas ..	4	3	2	11	6	4	5	3	2
Oklahoma ..	1	1	1	14	10	6	3	3	2
Arkansas ..	3	2	2	13	9	4	2	3	2
Average of 13 States	3.2	2.3	1.9	15.2	9.1	7.3	3.1	2.2	1.6

U.S. Cotton Ginning Investigations.

Extracts of Paper prepared by F. L. GERDES, Associate Cotton Technologist, United States Department of Agriculture, Bureau of Agricultural Economics, Division of Cotton Marketing, for the recent Texas Cotton Ginners' Congress.

THE cotton ginning research work being conducted by the Department of Agriculture is an essential phase of its programme looking to improvements in quality, better and more extended uses, and more adequate standardization of the American cotton crop. Mr. Chas. A. Bennett, of the Bureau of Agricultural Engineering, has outlined the experimental work under way and has related the findings pertaining to the mechanical phases of the problems. I shall discuss the cotton quality aspects of the programme for which the Bureau of Agricultural Economics is responsible through its Cotton Utility and Standards Research Section, under the leadership of Dr. R. W. Webb; and to point out some of the outstanding results that have been obtained from the cotton quality analyses of the samples involved in the studies made to date.

The studies, thus far conducted, definitely indicate that one of the principal quality elements that may be effected in the ginning process is ginning preparation, one of the three recognized factors of grade. Preparation refers to the surface appearance of a sample and is recognized in the trade as including features identified by such descriptive terms as "nappiness," "stringiness," "roughness," "neppiness," "motiness," etc.

Within certain limits, preparation may and can be materially influenced during ginning by the moisture content of the seed cotton, by the rate of feed or the seed roll density used, the condition of gin saws and ribs, and the action of the lint doffing mechanism. The results of a series of tests involving cotton varying widely in moisture content and staple length, indicated a general tendency for preparation to be relatively lower with seed cottons of successively higher moisture content and with seed cottons of succeeding longer staple length. The tight seed roll process gives inferior preparation as compared to that made with the loose seed roll. If the ginner, who is accustomed to ginning short cotton, encounters long cotton and desires to do a comparable job of ginning, he must make certain changes in ginning procedure. These embrace slower feeding of the cotton to the gin stand, and a better discharge of the seed from the roll box. The latter is desirable, because a gin generally does not shed the seed of long staple cotton as readily as it does those of the short staple cotton.

As the moisture content of the seed cotton increases, the damage by ginning to preparation increases. Therefore, to prevent this damage the moisture content in seed cotton must be reduced prior to ginning.

Tests conducted with the Government-designed vertical drier have yielded some good results. These tests have been made on numerous cottons of different fibre lengths and of moisture contents ranging from less than 8 per cent. to more than 16 per cent. Cottons of high moisture content show more improvement from drying than do those of low moisture content. That is to say, the results have shown increasing effectiveness of the drier in improvement of grade of lint, preservation of staple length, and greater efficiency of moisture removal as the moisture content of the seed cotton increases.

As the drying temperature for a seed cotton of any given moisture content is increased from 150° to 250° F., there are some slight successive increases in grade of lint, some tendency toward shorter staple length, and only slightly greater moisture removal.

Cotton 1½ ins. and longer having less than 8 per cent. moisture content, and cotton shorter than 1½ ins. having less than 12 per cent. moisture content, showed little or no net improvement in quality as a result of drying. When the moisture content exceeded these limits, however, drying did as a rule improve the lint quality, a drying temperature of 150° F. giving the highest net benefit for each length group. Temperatures of 170° to 200° were used safely on very wet cottons, but temperatures higher than these are usually injurious to fibre length and other fibre properties.

Seed cotton dried at 150° F. showed average improvements in grade of resulting lint which ranged from one-third of a grade for the longer staple cotton having 8.00 to 11.99 per cent. moisture and for the shorter staple cotton having 12 to 15.99 per cent. moisture, to about one grade for both the longer and the shorter cottons having 16 per cent. and greater moisture content. For a group of 12 cottons varying in length from 1½ to 1¾ ins., the quality of the lint was improved enough by drying to show, on the average, net benefits of about \$2.50 per bale for the green, damp, or wet cotton having 12 per cent. or more moisture and of approximately \$1.50 per bale for cotton of moisture content less than 12 per cent. With a group of 11 cottons varying in staple length from 1½ to 1¾ ins., the damp wet cotton showed net benefits from drying averaging almost \$1.00 per bale, whereas the drier cotton indicated a reduction in value as a result of drying. These figures indicate that the longer the staple, the greater the increase in net value to be obtained by artificially drying damp or wet seed cotton.

Average fibre strength was not weakened by drying the tested seed cottons at a temperature up to 200° F., but some weakening of the fibres appeared to take place when the material was dried twice in succession at 250° F. The percentage germination of seed from portions of seed cotton dried at drying temperatures of 150° to 250° F. was not reduced by drying. It even showed some indication to be increased.

The damage to quality as a result of tight seed roll ginning (relatively fast ginning) deserves serious consideration. The Department's ginning tests with a tight versus a loose seed roll (fast ginning versus slow ginning) on a wide range of cotton, and field observations made in commercial gins give evidence that the density of the seed roll is one of the most important factors in the gin stand operation so far as fine quality is concerned. Results of

tests employing loose and tight seed rolls at three gin saw speeds, the manufacturer's recommended speed and variation of 100 r.p.m. above and below this speed, with a group of cottons varying widely in staple length and moisture content, indicate that the quality effects produced by increasing the seed roll density overshadow those obtained with the different gin saw speeds employed. As a result of ginning with a tight seed roll as compared with a loose seed roll, grade damages, were generally very appreciable and staple length showed some tendency to be shortened.

The use of a loose seed roll (relatively slow ginning) instead of a tight seed roll (relatively fast ginning) with a group of cottons averaging $1\frac{7}{16}$ ins. in staple length from seed cottons averaging 14.1 per cent. in moisture content, showed net benefits of over \$4.00 per bale; and almost \$1.50 per bale with a group of cottons averaging $1\frac{5}{16}$ ins. in staple length from seed cottons having 10.2 per cent. moisture content. The reduction in value resulting from a tight seed roll for short staple cottons (about 1 in.) from seed cottons of relatively high moisture content, and of substantially lower moisture content averaged 95 and 62 cents per bale, respectively.

In addition to the monetary losses that may be associated with fast ginning, losses may result from the operation of gins whose saws have been neglected with respect to gumming and filing. In this connection some interesting results were obtained from a series of tests conducted with a set of saws in good condition and a set of badly worn saws operating on a group of cotton $1\frac{1}{8}$ ins. and longer and on a group shorter than $1\frac{1}{8}$ ins. With the longer cottons, the value differences in favour of the good saws averaged about \$2.00 and with the shorter cotton, almost \$1.00 per bale. Although the quality effects had some influence on these value changes, the weight losses resulting from the use of the badly worn saws were the main contributors.

The Cause of Lost Cotton Exports.

By JOHN H. BANKHEAD, Senator of the United States from Alabama.

(Extracted from *Manufacturers Record*, Baltimore.)

COTTON is America's outstanding export commodity. Since our Government was established our net balance of trade has been about \$37,000,000,000. Cotton and cotton textiles account for all of it but about \$3,000,000,000.

We are now confronted with a serious threat to our age-old foreign cotton markets. The outlook is not as serious as a superficial survey may indicate, nevertheless the facts and the possibilities should be carefully examined.

The reduction in exports of American cotton for the first nine months of this crop year have been striking—2,562,802 bales, or

41 per cent., compared with the same period the previous year. Consumption of American cotton in foreign countries during the same period has decreased about 18 per cent. When cotton was selling at 5 and 6 cents per lb., foreign countries snapped up quantities largely in excess of their consumption. For the last two years they have been drawing on their excessive stock accumulations. It does not seem clear that exports in excess of foreign consumption is particularly helpful to us.

CAN FOREIGN MARKETS BE RESCUED?

The real test of the beneficial distribution of American cotton is its consumption rather than its transportation. Consumption of American cotton, however, has decreased, both in our country and in foreign countries. At the same time there has been a decrease in the world consumption of foreign growths, but in less degree. What has caused the decrease in cotton exports? Can foreign markets be rescued and if so, how can it be done?

Some critics of the cotton production control programme assert that exports have decreased because of that programme. Such assertions are made apparently without any understanding of the statistical position of cotton.

With a carry-over of nearly 9,000,000 bales, no one can contend that there is not an excessive and price depressing supply. The average carry-over during the pre-war period was only 3,200,000 bales. It is claimed that the Administration's cotton loans have created an arbitrarily high price for cotton which has resulted in smaller exports. There are two satisfactory answers to that contention:—

France, Germany, Italy and England have been our chief buyers. Our loss in exports is due to decreased buying in those countries. The first three are on the old gold standard basis—International balances are measured by that basis; 7.2 cents in French, German or Italian gold will pay for a 12-cent lb. of cotton. The same amount of their money that bought 60 bales of American cotton now pays for 100 bales of cotton (approximately). Why do they not buy American cotton at 12 cents per lb. in American money when they can pay for it at 7.2 cents in their money? There is but one answer. They cannot get American dollars. They need American cotton to meet established trade standards. Their mills are equipped for it. Their trade is accustomed to it. It has its particular values.

CHIEF COMPETITORS OF AMERICAN COTTON.

Egypt and India have constantly been our chief competitors for export trade. Egyptian cotton is chiefly long staple and has an established price differential higher than American. Indian cotton is a shorter staple and inferior grade to American cotton.

Exports from Brazil have been negligible until this year. Their cotton is not equal in grade to American. The British colonies in Africa have for some years been increasing cotton production. India and Egypt have not increased production, and it is generally accepted they cannot economically do so. China and Russia are not exporters. Due to differences in staples and grades and recognized price differentials, there has been for many years a market for a fairly definite quantity of American cotton.

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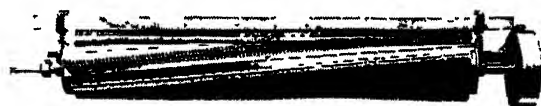
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If France, Germany and Italy cannot get American dollars with which to pay for American cotton, it may be asked, "How do they pay for cotton in Egypt, India and Brazil?" They are buying cotton by barter and trade exchange. As an illustration, Italy traded a submarine to Brazil in payment of cotton.

A German delegation recently spent several months in this country endeavouring to work out a barter arrangement to procure about 800,000 bales of cotton. The difference in domestic prices in Germany and America as measured by the devalued gold dollar in America, made it difficult if not impossible under the anti-dumping law for German-produced goods to be imported into this country at American prices for the same goods. Germany was willing to barter its goods at American prices for American cotton, but was not permitted to do so. The leader of the German delegation conferred with me. He stated positively that the price of American cotton had nothing to do with the decreased purchases by Germany. He further stated that cotton at a price of 15 cents per lb. in American money would be no real obstacle. Their only problem was securing American dollars. They did not get them. They bought the cotton from other countries, who traded with them.

During the crop year 1933-34 Germany took from America 1,293,184 bales. During the first nine months of this crop year Germany has taken 346,971 bales, a decrease of 73.2 per cent. During the same period France took 700,771 bales, against 340,598 bales, a decrease of 51.4 per cent.

AMERICA SETS WORLD COTTON PRICE.

In considering the effect of the 12-cent price of American cotton on exports, an important fact seems to have been entirely ignored. *The price of American cotton is the world price for cotton.*

Practically the same differentials in the price of American, Indian, Egyptian and Brazilian cottons that have existed over the years prevails at this time. When the price of American cotton goes up or down, the price of other cottons move in the same way and in nearly exact price changes. The price of foreign cottons follows the price of American cotton about like New Orleans follows New York.

On the cotton exchange at Liverpool four cottons are listed and quoted just as American cotton is quoted on the New York Cotton Exchange.

I have before me a chart showing the daily fluctuations of the four cottons on the Liverpool Exchange from March 11 (the day the big break in the price started on the New York Cotton Exchange) until March 30. The four lines on the chart representing the cotton of the four countries named, each day moved in the same direction almost to a point during the entire time stated, with the exception that beginning about March 21 the price of Egyptian cotton climbed a little higher than did the other countries. It is remarkable that with the wide and quick fluctuations during that period in the price of American cotton, that of

other countries followed almost exactly each movement in the price of American cotton.

WHY LOWER THE PRICE?

If we deliberately lower the price of American cotton, we will automatically lower to the same extent the price of competing cotton. We will sell no more cotton abroad than we are now selling. Foreign mills can continue to buy from the countries where they are now buying it at the same relative price. They will continue to buy it where they can pay for it. We will probably never recapture England as a customer. Under the Ottawa trade agreement they will continue to buy their supply from their colonies and dependencies, India, Egypt, and Africa. They pay for their cotton with English-produced industrial commodities.

Japan is now our best customer. So long as we take their silk and cotton fabrics we will probably hold the market. Recent reports, however, indicate that Japan may be planning to secure cotton in China if her exports to America are discontinued or greatly curtailed. Under the regime of nationalism throughout the world, with its attendant systems of tariffs, trade quotas and balanced imports with exports, America's cotton may be the chief sufferer.

If we cannot sell large crops of cotton why produce them? The United States Steel Corporation does not produce at capacity when there is no market for the full output, at a price to cover cost of production. If a lower price for cotton will not bring about a compensating increase in exports, why lower the price?

NO QUICK SOLUTION.

What can be done to reopen world markets for American cotton? I confess that I know of no quick solution.

If our markets are blocked, if foreign production is increased, if substitutes are developed, the cotton producers are powerless to prevent it.

It will not help them to pile up in the warehouses larger surpluses. That will result in lower prices, no material increase in sales, less return for their labour, less food and feed crops now being produced on the acreage taken out of cotton production.

If the cotton producers are confronted with decreased consumption, the sensible and business-like thing to do is to make adjustments to meet the inexorable facts. Controlled production with a reasonable price will enable them to make an orderly retreat. Uncontrolled production with low prices and stagnant markets means disaster, not only to the cotton producers, but to all industry and business whose trade area is the Cotton Belt.

With industrial wages increased, with the price of things bought by farmers constantly rising, it is heartless to talk about decreasing the purchasing power of the cotton farmers in order for America to reduce the price of cotton low enough to drive the cotton labourers of India, Egypt and Brazil out of cotton production.

The present domestic parity price of cotton is 16 cents per lb. This year's crop, under the statistical position of American cotton, should bring the farmers 13 cents per lb.

IF THE A.A.A. CRUMBLES.

In an editorial article under the above title the *Journal of Commerce* (New York) discusses the probable results of the decision of the Boston Appeal Court in the Hoosac case, in which the Hoosac Mills reclaimed cotton processing taxes. It states that should the decision be upheld by the Supreme Court in the autumn, the legal foundation will have to be removed not only from the existing A.A.A. but possibly also from under the Act, as it will stand with the pending amendments to it.

The *Journal of Commerce* suggests that the first result will be the reclamation by the cotton mills of some \$80,000,000 paid in processing tax, unless the Congress should pass a pending amendment barring suits to recover such taxes. Payment of processing tax would cease and the Federal Government deficit would be increased by \$500,000,000. The cessation of these payments would doubtless have a depressing effect on agricultural prices.

"In the long run," the article states, "the sequel of the Hoosac Mills decision may be the evolution of a new national agricultural policy. We may soon be back to where we were in 1933, assuming there will be no attempt to implement the A.A.A. by constitutional amendment and that the effort fails to force the A.A.A. on the country by closing the courts to those who challenge it. One solution would be to have the Federal Government resort to an out-and-out subsidy policy, paying benefits out of the general revenues of the Treasury in return for commitments on the part of producers to curtail their crops. The agricultural adjustment programme would thus be transformed into a permanent subsidy to farmers designed to maintain farm prices at a relatively high level. The objective of a balanced budget would become all the more remote unless radical increases in the tax burden on industry were effected in the meanwhile.

A second alternative would be to fall back upon the domestic allotment or export debenture principle. Supplies of basic commodities available to the domestic market would then be limited to the estimated home demand, while the surplus would be sold abroad for what it would bring. Many competent observers feel that the domestic allotment plan would have a much stronger legal position than the processing tax principle. The third basic alternative is to give up the whole principle of crop control and to seek instead a gradual lowering of prices of things which the farmer buys through tariff reductions and the substitution of a more effective and rational statute for the anti-trust laws. The latter programme would be aimed at restoring a better balance between agriculture and industry through removal of artificial protective measures erected for the benefit of each at the expense of the other.

Whatever national agricultural policy will be adopted, it should be chosen only after due deliberation. The haste and incompetence which have marked the A.A.A. experiment, and which now threaten to leave it stranded completely on the shoals of unconstitutionality, would not then doom such a new effort to a brief existence during which those affected are kept in a constant state of uncertainty and disturbance.

COTTON POOL HOLDINGS.

Mr. C. T. Revere, the well-known American economist, gives the U.S. Government cotton holdings in his report dated June 22, 1935, an extract of which appears below:—

As we approach the end of the cotton season and as we reach the stage where new crop developments take on increasing importance, it probably is essential to give the relating factors ascendancy over outside or collateral issues.

One item of paramount interest concerns end-season stocks of old cotton, and on this point the June 17 issue of the New York Cotton Exchange Service contributes a significant tentative compilation. It is pointed out that the domestic stock of cotton in all positions at the end of May was approximately 8,453,000 bales, compared with 9,034,000 last season, and 10,545,000 two years ago. These figures include 987,000 bales on farms and in transit, 939,000 in mill warehouses, and 6,527,000 bales in public storage. The latter item includes all spot cotton controlled by the Government in the 12 per cent. loan and the Producers' Pool.

Based on a tentative estimate that Pool holdings of spot cotton at the end of May were 800,000 bales and loan controlled cotton 4,400,000—a total of 5,200,000—the amount of so-called “free” cotton in the United States at the end of May was about 3,250,000 bales. The Service suggests the probability that the total domestic stock of American cotton on July 31 will be around 7,100,000 bales. If the Producers' Pool should reduce its spot holdings to 500,000 bales by further conversion of spots into futures, and if the present amount of 4,400,000 bales should remain pledged under the Government loan, this total of 4,900,000 bales of Government controlled cotton would leave the amount of “free” cotton at the end of the season around 2,200,000 bales. This would be about the same as at the end of the seasons in 1928 and 1929.

In view of the fact that the present Government loan is extended until February, 1936, the suggested tightness is too apparent to require further emphasis. In addition to this the contract holdings of the Pool Manager, convertible into actual cotton, might approximate 900,000 bales before the end of the season.

While we do not believe that the policy of the Producers' Pool management would favour the idea of a “squeeze,” the ability to demand delivery of cotton on the various positions as they mature provides an agency of great potentiality for sustaining prices through the acceptance of tenders on delivery.

COTTON POOL PROGRAMME.

According to a recent issue of *Commerce & Finance*, Mr. Oscar Johnston, in charge of the cotton pool of the A.A.A., does not believe there will be any repercussions on cotton production in the United States as a result of the Supreme Court's decision on the N.R.A. Legality of the loaning policy is not affected in the least,

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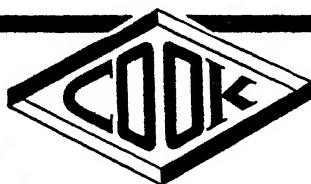
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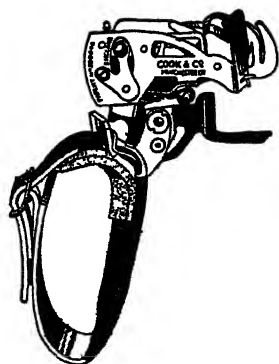
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so far as he can see. He also says pool cotton will continue to be sold if the basis is satisfactory.

"I will give full assurance," he said, "that the Government is not going to develop a squeeze, or pull any surprise party, but will do everything it can to help the market. The pool has about 35,000 bales contracted in the July position. With the market at or under 12 cents, the probabilities are that when the tender date for July comes, the Government will take delivery of the cotton, provided that this action does not bring about an abnormal situation, or cause any disturbance of balance between the prices of the different months."

Since the pool was reopened on May 9, he said, it has sold about 400,000 bales of cotton, of which about 300,000 are for immediate export.

He denied that the 12-cent loan is responsible, except in a minor degree, for the drop in American cotton exports. The principal cause, he said, has been the inability of foreign customers to put up money for cotton. Germany, he illustrated, has offered substantially more than the market price for a large volume of cotton, provided it can pay in goods.

In reference to a recent statement by President Roosevelt, discussing the agricultural outlook in the light of the N.R.A. decision, Mr. Johnson said: "Without presuming to criticise or interpret statements by the President, I find nothing in the N.R.A. decision by the Supreme Court which casts the slightest shadow of doubt, in my mind, on the validity of those provisions of the A.A.A. under which the cotton programme of the Department of Agriculture was formulated.

U.S. COTTON EXPORTS SUBSIDY ?

The U.S. Congress, on June 18, voted its approval of the A.A.A. Amendment Bill empowering the Secretary of Agriculture to force obedience to farm marketing agreements and making available approximately \$100,000,000 of customs receipts for subsidizing exports of agricultural products.

The export subsidy programme is a combination of all the old plans which have been discussed in Congress for the past decade and placed in the hands of the Secretary for use as he sees fit.

NET WEIGHT SELLING OF AMERICAN COTTON.

In view of repeated protests made by members of the International Federation against the inferior manner in which American cotton is baled, it is interesting to note that latest advices from the South report revived interest in the Fulmer Bill, the main purpose of which is to provide for the use of net weights in Interstate and foreign commerce transactions in cotton, to provide for the standardization of bale covering for cotton, and for other purposes.

The United States Department of Agriculture, referring to the subject of selling net weight, states the adoption of net weights would, it is thought, encourage the use of more satisfactory bale coverings since net weights would doubtless be coupled with some arrangement for standardized tare. Standardized tare, in turn, should eliminate the opportunities for over-taring of bales.

EXPORTS OF COTTON TO JULY 12, 1935.

	Since August 1 This Year	Since August 1 Last Year
Great Britain	770,194	1,275,611
France	388,943	733,798
Germany	435,832	1,408,989
Holland	80,754	118,603
Belgium	98,033	121,399
Russia	73,662	58,959
Denmark	47,598	45,558
Norway	9,550	8,620
Sweden	78,033	69,688
Portugal	41,460	50,721
Spain	240,008	266,448
Poland	192,017	221,176
Italy	494,672	659,372
Greece	875	537
Japan	1,540,649	1,822,428
China	122,113	345,776
Mexico and P. Rico	199	2,667
British Columbia	9,229	11,637
Finland	3,604	3,250
India	41,253	18,653
South Africa	1,565	3,664
Martinique	—	22
South America	6,023	11,429
Switzerland	—	—
Bulgaria	89	550
Latvia	—	350
French Indo-China	—	100
Philippine Islands	196	300
Austria	—	100
Estonia	634	1,685
Canada, etc.	212,949	267,068
Roumania	140	1,000
Australia	—	400
British India	—	—
Mozambique	2	1
Total, including shipments to Canada	4,890,279	7,530,579

SEA ISLAND COTTON IN NORTH FLORIDA.

Efforts have recently been made at Madison, Fla., to rehabilitate the Sea Island cotton industry which once thrived in that section. To date the outcome of the demonstration points to a highly successful conclusion. Blossoms are appearing in the March-planted fields and open cotton should be produced by July 10.

A new theory for weevil control is being tried with unusual success. A recent examination of the fields which were heavily infested during the first half of the month shows zero infestation where weevil control has been practised. Farmers are showing much interest in the demonstrations, and, if good prices are received for the current crop, a much larger acreage will undoubtedly be planted in 1936.

CROP AND MARKET REPORTS.

Messrs. Weil Bros., Montgomery, Alabama, in their semi-monthly crop letter dated July 2, 1935, state as follows:—

As we enter the month of July we find the crop in the middle and southern parts of the Eastern Belt in excellent condition, the plant being green, healthy, well sized and fruiting, with a good tap root and well cultivated. Conditions in the northern portions of the Eastern Belt are not so favourable. Here too much rain has left a very spotted condition, fields not so well cultivated and stands irregular. However, some improvement has been noted in this section during the last few days. There are reports of weevil in the Eastern Belt but to date damage from this source has been nil. With continued favourable weather in the southern section the movement can be expected to begin the first half of August.

The situation in the West is not nearly so favourable as it is in the East. With the exception of west Texas, the crop is from two to four weeks late—over-abundant rainfall and too cool nights have made a good deal of replanting necessary. The same conditions prevail in what is known as the Memphis district. Hot dry weather with occasional showers is now needed in this section.

Demand from American spinners is rather poor as the majority of mills, on account of the prevailing high basis, lack of orders and curtailment, prefer to go into the new crop with as small a stock of cotton on hand as possible. European demand, too, has been light, England and Russia seemingly have at this time more interest in cotton than other nations.

With mill stocks low and with shippers' stocks practically sold out, the bulk of the carryover will either be in the A.A.A. Pool or tied up in the twelve cent loan. In consequence mills must necessarily look to the new crop out of which to make their principal purchases. The weather map will therefore bear very close scrutiny for the next few weeks.

Messrs. Geo. H. McFadden, writing from Philadelphia, on July 16 last, state:—

The weather during the week ended July 12 was favourable throughout the entire Cotton Belt with a few local exceptions. Above normal temperatures prevailed in most sections, and, except the Eastern States, the week was practically rainless. In the Atlantic States there were showers almost every day, which were quite beneficial. Continued warm weather is needed, and our

correspondents indicate that occasional showers in the northern half of the Belt east of the Mississippi would be favourable, while a good rain would be helpful in the north-west portion of the Belt. Except locally in the Piedmont district in South Carolina, there is no particular urgency for moisture. On the other hand, any continuance of rainy weather would have a tendency to increase boll-weevil activity.

Cultivation continued to make satisfactory progress. Taproot development has been rather slow in many sections in the Western Belt; elsewhere root growth averages fair to good. Plants are generally healthy with a few local complaints of wilting, off-colour and rank growth. They are, however, rather small for this time of the year in many sections. Cotton is blooming freely in most sections, while fruiting is generally satisfactory, with only a few complaints of shedding. The crop is about made in most of Florida, and picking is beginning in the southern portion of South-west Texas, and is expected to become general within a week to ten days.

Weevil damage is generally light, with the heat serving as a check. On the whole, our correspondents estimate the weevil damage about the same as at this time last year. Very little poisoning has been done as yet.

Other insects are reported, but these are causing comparatively little damage except in some sections of Texas, where leaf-worms and fleas are fairly active.

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The Position of American Cotton in the World To-Day.

*Paper prepared by Mr. C. T. REVERE (Munds, Winslow & Potter,
New York), for the XVII International Cotton Congress,
Milan-Rome, 1935.*

IN these trying days when every Government is moving heaven and earth to shield its nationals from the crushing forces of economic maladjustment, it should furnish no occasion for surprise that traditional principles should be subject to violation. Confronted by crises, especially if they contain some unfamiliar and baffling element, we are prone to choose what appears to be the easiest way out of our difficulties. Instead of facing realities, we resort to sophistry, arguing that economics is still an embryonic science, with its so-called laws undeveloped and, unlike those of physics, not susceptible of strict mathematical demonstration.

It is so simple to flout experience if we only can claim that we are confronted by new conditions and situations, and that the remedies that have served us in the past will not be effective against a strange malady. Yet, always there is the danger that we may awaken to the realization that this new foe is merely humanity's old enemy, Depression, attired in modern clothes. Later we may discover that we are trying to rout him with the same ancient fallacies, covered by a thin disguise of shibboleths and slogans in up-to-date vernacular, designed to give the impression of economic novelty.

Please let me make it clear that in setting forth these generalizations I am not singling out my own country and its cotton policy for special indictment. Practically every nation has felt compelled to resort to expedients departing widely from the cardinal tenets of the classical economy to evade or mitigate present and impending distress. A community of misery, instead of promoting world solidarity, has driven peoples apart, intensifying the baneful ego of nationalism and the urge for self-protection.

These manifestations virtually have run the whole gamut of destructive inhibitions. They present a nightmare picture of tariff barriers, quota restrictions, exchange regulations, monetary and credit manipulation, price-fixing, and crop destruction. America has ploughed up millions of acres of cotton, and Brazil has burned millions of bags of coffee.

Before entering into the details of the subject assigned to me, I trust I may be pardoned for indulging in a few general reflections on the philosophy of seeking to attain desired price objectives through the agency of the producer and production control. Whether it be rubber, coffee, copper, tin, or cotton—whether it be

cartel or government—whatever nomenclature be applied to the operation—the pattern is essentially identical. Throughout the warp and woof of all runs one fundamental error—the failure, or unwillingness, to perceive that *except under practically monopoly conditions, and then only temporarily, the producer has no control over price*. In this battle of opposing forces, the consumer is the final arbiter. His “I can,” or “I can’t,” his “I will,” or “I won’t” settles the matter. Inertia and passive resistance triumph over dynamic forces, and Helpless in the end proves Master.

In order to afford a broad conception of the American policy, I have chosen to treat the subject from the following standpoints: social motivation, economic objectives, methods employed, and the ensuing repercussions of a domestic and international character.

It is doubtful if it will be possible to comprehend the motives actuating our dealing with the problem, unless it is borne in mind that it is only a generation or so since our population was preponderantly agricultural. Owing to this fact, our national spirit is permeated with a deep sympathy for the farmer and his problems. I am proud to say that as a people we rebel against the injustice of a condescending cynicism tacitly approving the concept that the man who toils from dawn to dark to provide the nation's subsistence should be society's slave. There is no place in our social and economic structure for the stratum of peasantry. All our agrarian agitation and legislation over the last few decades has been designed to remove the inequality existing between the agricultural and the industrial producer.

Unfortunately, a purely economic solution of our agricultural problem has been difficult, if not impossible, because it has become one of our major political issues. Self-appointed Messiahs, seeking to justify their position as leaders of our farm organizations, have come forward with panaceas promising overnight salvation. Members of our Senate and House of Representatives have sponsored ill-considered legislation in the hope of bolstering up political prestige, and departmental executives have racked their brains day and night to devise new formulæ to satisfy the clamour for farm relief. Platform pledges at the opening of our quadrennial Presidential campaigns have bound our great parties to commitments which demanded action.

It is hardly necessary, in this discussion, to emphasize the fact that the real remedy for the obvious disease of an impoverishing inequality for the farmer lay in a sound revision of our tariff methods. With a political religion nurtured for so many years on the tradition of protectionism, neither party would have dared to oppose the growing trend toward nationalism by such a radical step, particularly in these times.

We also must keep in mind the crisis confronting the present Administration when it came into power. The world-wide crash in commodity prices, further accentuated domestically by the fiasco of the Federal Farm Board, had driven cotton prices lower than they had been in a generation. The world carry-over of American cotton had mounted to 12,960,000 bales, and our Government found itself legatee of about 2,400,000 bales, including spots and

futures bequeathed to it by the Farm Board and other Federal credit agencies at a colossal loss. Approximately half a billion dollars had run down the fiscal sewer as a result of the ill-starred venture to hold prices of our staple commodities against the irresistible tide of world depression.

When it came to dealing with the cotton problem, there was a choice between two economic philosophies. One was the slow, traditional method of absorbing surplus stocks through the medium of demand stimulated by low prices, assuming, as experience had taught, that demand in a free market would pass raw materials into consumption and take care of the price problem.

But a people weary after four years of disappointments and losses have little patience with the slow and sober processes of *laissez faire*. In fact, they are inclined to blame these same methods for the crisis in which they are involved. Moreover, as the crisis continues, each day brings announcements of some new cure-all for economic ills. There is a demand for quick action.

In the United States, this craving found expression in the following formula: to raise prices for farm products and raw materials on the hypothesis that the improved buying power of agricultural and raw material producers would absorb the products of industry, and that the re-employment and buying power thus created throughout industry would react favourably upon the market for agricultural products. This hypothesis took the form of a benevolent cycle.

It is only fair to state that this formula met wide acceptance not only in the United States, but in respectable circles abroad. Those who regarded the theory with scepticism were set down as reactionaries and pessimists.

At this point it should be emphasized that when the present Administration embarked on its plan for agricultural relief, particularly as it related to cotton, official announcement unequivocally stated that the Administration had in mind an emergency programme, and not a permanent policy. The objective of this programme was the restoration of the relative buying power of agriculture to the pre-war average of 1909-14. In these pronouncements we frequently will find the term "parity price." Broadly construed, this did not mean actual price, but purchasing power for agriculture comparable to that prevailing in the period named. To attempt still further clarification, these efforts had as their purpose the attainment for agriculture of a share of national income approximately on a parity with that of 1909-14.

The average of agriculture's share for these six years represented about 17.3 per cent. of our national income. In 1932, this proportion had sunk to 7.5 per cent. The mechanism designed for bringing about this result, in the case of cotton, called for the dual processes of reducing existing stocks in this commodity by means of crop reduction and the bestowal of benefits in the form of participation in cotton pools, rental and parity payments. It was assumed that through a combination of a rise in prices and the receipt of collateral benefits, the relative purchasing power of the cotton producer would be brought up to a basis comparable with the level prevailing in 1909-14.

The plan, designed as it was to correct inequalities emanating from a tariff policy that had bestowed favours on industry, paid little heed to the possibility of increased living costs practically certain to be imposed on other groups in the community, the industrial worker, and the dwellers in urban centres. In short, the programme had in mind an economic realignment of the position of rural and urban groups.

There was nothing new in the theory of bringing about a price rise by the creation of scarcity conditions. This device had proven effective in industry, particularly where combinations of producers were able to get together for accomplishing such a result. The influence of scarcity on agricultural prices in years of crop shortage had been verified countless times in history. These latter phenomena, however, had been produced by visitations of nature.

Hitherto it had been impossible to bring about scarcity conditions, or crop reduction, through co-operation on the part of farmers. The spirit of individualism, and, even more, the suspicion with which the average tiller of the soil held the voluntary pledges of his neighbour, always had militated against success in such operations. Campaigns of education and arguments pointing out the relative prices received for a short crop as compared with those of a large one had fallen on deaf ears.

The Agricultural Adjustment Administration, therefore, resorted to a device hitherto practically untried, and one which would have been virtually impossible except for a Government with vast resources at its command. It decided to compensate the cotton grower for making what he always had regarded as a sacrifice and to offer him a substantial inducement for co-operation.

The financial statistics of this undertaking are set forth below. I am inclined to believe that if it were not for the fact that the colossal wastage of the great war had caused nations, and particularly politicians, to lose all sense of proportion in public expenditures, no such outlay for a venture in price experimentation would have been countenanced. However, it should be kept in mind that these operations have thus far been self-sustaining and that there has been no addition to the public debt.

At this time, barely two years after the plan was initiated, an absolutely accurate audit of expenditures probably is impossible. Nevertheless, I have before me, coming from an official source, what may be accepted as reasonably close approximations of these outlays. Moreover, I consider it unnecessary to make detailed explanations of these items, as the cotton trade of the world is familiar with the reasons for the disbursements.

The 1933 emergency adjustment programme (plough-up) for cotton resulted in the removal from production of approximately 10,500,000 acres. The planted acreage in that year was about 40,852,000 acres, and after the plough-up and allowing for normal abandonment, the harvested area was in the neighbourhood of 29,978,000 acres. New York Exchange figures place the production, including city crop, at 12,712,000 bales.

Producers were paid approximately \$112,500,000 in rental payments, and they also received options on more than 1,950,000 bales of Government-owned (old Farm Board) cotton on the basis of 6 cents per pound. It is estimated that on these operations pro-

ducers already have made a profit of more than \$70,000,000, and they still hold participation trust certificates representing their interest in about 1,700,000 bales remaining in the Cotton Option Pool. The 1933 campaign is estimated to have cut the production about 4,500,000 bales from the total that might otherwise have been produced.

Under the 1934-35 plan, producers rented approximately 14,000,000 acres normally planted to cotton to the Secretary of Agriculture. Final ginnings in 500-lb. bales are placed by the Census Bureau at 9,633,000 bales. A preliminary estimate of total payments for this year is placed at \$115,000,000. Of this amount, \$85,985,000 was in rental payments, and a little more than \$24,000,000 in parity payments had been disbursed as of March 6, 1935. Total payments to producers for the two seasons are expected to approximate \$227,500,000, aside from profits in Pool participation.

For the season of 1935-36, the Agricultural Adjustment Administration is seeking a maximum reduction of 35 per cent. from the base acreage. Payments to co-operating farmers are expected to aggregate about \$130,000,000.

The benefit payments are being financed by the processing tax of 4.2 cents per pound on the domestic processing of cotton. The total amount collected through the processing tax from its effective date, August 1, 1933, to January 31, 1935, was \$202,613,856. The cost of administering the 1933-34 and 1934-35 programmes, inclusive of the cost of administering the Bankhead compulsory control measure, was approximately \$15,530,000. It is estimated that it will cost \$8,000,000 to administer the adjustment programme for 1935-36.

The purpose and scope of the Bankhead Compulsory Control Act is so well known that it requires no detailed discussion here. It is of interest to learn that the approximate cost of administering the Act in 1934-35 was \$7,750,000. The amount collected prior to January 31, 1935, in taxes for excess over the quotas under the Bankhead Act totalled \$229,672. Of course, this Act never was intended as a revenue measure. The estimated cost of administering the Bankhead Act for the 1935-36 season is \$6,000,000.

Under the 10-cent loan programme, a little more than \$99,498,000 had been loaned by the Commodity Credit Corporation on 1,925,787 bales as of March 2, 1935. Under the 12-cent loan plan, \$19,076,247 represented the loans by the same agency on 310,839 bales of cotton as of March 2, 1935. However, other lending agencies are holding the bulk of the 12-cent loan. The aggregate amount of loans as of March 2, including the \$19,076,000 put out by the Commodity Credit Corporation, was \$252,652,842 on 4,142,378 bales.

Similar borrowing privileges have been extended to producers holding cotton in the cotton option Pool. Up to the close of business on January 21, 1935, approximately \$38,996,000 had been advanced to producers on 1,949,823 Pool bales, this extension having been granted under the 4-cent advance plan. This represented the difference between the 6 cents allowed on the option and the 10-cent loan. When the loan was raised to 12 cents, producers in the Pool were permitted to apply for an additional advance of 2 cents

per pound. Under this plan, the Pool, up to March 5, 1935, had approved 1,338,495 bales as eligible for the additional advance. Disbursements of \$4,121,838 actually had been made on 542,347 of these bales as of January 21, 1935.

As nearly as can be gathered after burrowing through the financial details, one is justified in reaching the conclusion that with benefit payments for the first two years totalling \$227,500,000 and \$70,000,000 in the form of profits in Pool options on Government-owned cotton, producers over the first two seasons of the adjustment have received close to \$300,000,000.

In addition to these disbursements, it is necessary to give consideration to the advantages accruing, at least for the time being, to producers through the protection afforded first by the 10-cent loan and later by the 12-cent loan. Undoubtedly had it not been for the sustaining influence of the 10-cent loan for the season of 1933-34, prices would have receded substantially. The same observation applies to the 12-cent loan.

After this financial summary, we are justified in undertaking a survey of the economic consequences of the operation. The subject which I am called upon to discuss is "The Position of American Cotton in the World To-day." I doubt if an adequate analysis of the problem could be given within the strict limitations of this title. It seems to me that the presentation should involve not only the present position of American cotton, but the implications of the programme of the Agricultural Adjustment Administration as to its future bearing on the domestic and international position of American cotton.

As I endeavoured to point out earlier, the Agricultural Adjustment Administration committed itself at the outset to an emergency operation. The cotton trade of the world was justified in assuming that its methods would be largely confined, through the agency of drastic crop control, to a speedy and effective reduction of our surplus stocks, whose magnitude prevented the attainment of a satisfactory price level. Meantime, benefit payments obtained through the imposition of the processing tax were to aid in improving the relative buying power of the cotton producer. Loans were temporary devices designed to prevent an intervening negation of price-raising efforts.

Before entering upon an attempt to evaluate the results of the Agricultural Adjustment programme, I again request consideration for the intrusion of a few general observations. Always there is danger that when Governments venture upon a carefully-planned and well-meant experimentation, designed to cope with what is believed to be a passing phase, they may find themselves inextricably embarked on a career that may develop into a bureaucratic fixity.

One important contributing cause, it is fair to state, is the pressure not only from political sources, but from business interests themselves, to add to the restrictions. The textile industry, itself, is not without guilt in this particular.

Responding to this pressure, more and more power is sought, and thus bureaucracy pyramids its mistakes. On all sides we are reminded of the Scriptural warning that when the hand is set to the plough, one may not turn back. Of recent memory is the admission

of the late Alexander Legge, then Chairman of the Federal Farm Board, who, in speaking of efforts to sustain prices by Government buying, said that there was "no good place to stop." In other words, forces may be unleashed over which there is no control.

Probably the greatest obstacle to the success of attempting to impose planned economy upon the complexities of modern civilization, lies in the fact that while intelligent foresight may take account of a few of the countless factors, and apparently solve one special problem, this specific solution generates new problems that arise to plague us. It is the same old story of the Hydra of Lerna, with no economic Hercules forthcoming to slay the monster.

Departures from the accepted orthodoxy of economic practice conceivably have their place in a rapidly executed emergency undertaking. Apropos of this, I might indulge in a moment of retrospect. Let us assume that the American programme had been confined to two years of drastic encroachment on surplus through the medium of crop reduction. American cotton producers co-operating in this programme would receive an approximate offset for smaller crops by higher prices for their output, and should be further compensated by the variety of benefits devised.

The correction of a hostile statistical position would prove advantageous to the cotton growers of every other country. Cotton manufacturers throughout the world would find their position improved by the rising tendency of raw material prices. The textile industry usually has reaped its most satisfactory profits under such conditions. Based purely on emergency considerations, vigorously conducted and limited in period of time, the originally announced concept of our cotton programme might and possibly should have received generous and widespread welcome.

In rounding out this analysis, I propose to review the effect thus far on the statistical position, price achievements, the effect on our own domestic situation, both in respect of the textile industry and the cotton-growing economy of the South, the threat to America's position in the world cotton trade, and the competition of synthetic fibres.

According to the statistical set-up employed by the Department of Agriculture, the carry-over at the end of July, 1932, was 12,960,000 bales. (The New York Cotton Exchange Service makes the comparable figures 13,228,000 bales.) In attempting to calculate reduction in surplus stocks, it is hardly just to take the bare performance represented in decreases from the previous season. For example, it is obvious that had it not been for the plough-up campaign of 1933, there would have been a large increase.

This destruction of cotton was undertaken because Southern farmers in part, anticipating efforts to bring about higher prices, and partly because they had no attractive alternatives, actually had increased their acreage by more than 12 per cent. Foreign producers for much the same reasons had expanded their acreage. The actual cut in the crop from the previous season on the remaining acreage was a matter of only about 250,000 bales, due chiefly to the fact that the yield per acre was close to the highest on record. The large increase in consumption during that season brought the carry-over (United States Department of Agriculture figures) down to

11,588,000 bales on August 1, 1933, with a drop to 10,634,000 bales on August 1, 1934.

The crop-cutting activities of the Agricultural Adjustment Administration, influenced by the Bankhead Act and combined with the disastrous drought in the South-west, reduced the yield for 1934-35, according to the final Census Ginning Report, to 9,633,000 bales of 500 lbs.

Officials of the Agricultural Adjustment Administration have been counting on a diminution of the carry-over by August 1, 1935, to the basis of about 8,300,000 bales. It is doubtful if these expectations will be fully realized. Here we have an example of the manner in which the treatment of one problem thrusts another offsetting factor into the equation. To put it concretely, the consumption of American cotton is likely to show a decline that to some extent will nullify the effect of the crop curtailment.

It now looks as if the world consumption of American cotton this season will be in the neighbourhood of 11,500,000 bales, compared with 13,680,000 last season, suggesting a carry-over decrease of about 1,850,000 bales from the total of 10,634,000 at the end of July, 1934.

Department officials have been on record frequently as stating that the ultimate objective of the Agricultural Adjustment Administration programme was a reduction in carry-over to the basis of about 5,000,000 bales. During the past year, admissions have been made by highly-placed officials to the effect that crop restriction as an instrument for reducing surplus had about reached the practical limit of its efficacy. With the original surplus objective likely to be about 3,500,000 bales away from realization by the end of the current season, it would seem that encroachment on excess stocks would have to be largely achieved through an increase in consumption.

Department of Agriculture officials have shifted their emphasis from a policy of restriction. Further benefit to agriculture, and particularly to the cotton farmer, they assert, must come from a revival of industrial activity in America, and a re-opening of the channels of foreign trade.

When it comes to considering price achievements, the question resolves itself largely into a matter of the basis for calculation. In analysing this phase, I think it might be illuminating to quote certain observations made by Dr. A. B. Cox, Director of the Bureau of Business Research of the University of Texas. Dr. Cox is widely known as an authority on the problems relating to cotton. In a recent study, Dr. Cox said:—

“Broadly speaking, the forces which make the price of cotton can be divided into two groups. The first group, the ones we usually think of, are the forces of supply and demand. Normally they are the most important, but not always. The second group of factors are those affecting the value of money. . . . American cotton prices are world prices. This means that the price of American cotton under normal conditions is the same at any one market as at all other markets using American cotton when the cost of marketing from point of origin is taken into account. . . .

“What is the gold value of cotton at the present time? In order to convert the present price of cotton into its equivalent of

1932 gold value, e.g., multiply the present price by 59.06 per cent. New Orleans spot price of cotton was quoted at 12.56 cents on January 15, 1935. Its equivalent in gold in terms of the gold dollar, or the 1932 price, is 7.42 cents. The actual New Orleans spot price was 6.58 cents in January, 1932. In other words, that portion of the advance in the price of cotton from 6.58 cents in 1932 to 12.56 cents in 1935 due to the decline in the gold value of the dollar is approximately the difference between 7.42 cents and 12.56 cents, or 5.14 cents. The net advance due to supply and demand conditions is the difference between 6.58 cents, the gold price in 1932, and 7.42 cents, the equivalent gold price, January 15, 1935, or 84 points, or less than one cent per pound. In other words, stated frankly and bluntly, the Government cotton reduction programme cannot be given credit for more than 84 points of the dollar advance in the price of cotton since 1932, and that we have 12.56-cent cotton now instead of 7.42-cent cotton because we have a 59-cent dollar.

"... Why did the dollar prices of cotton advance so closely with the fall in the gold value of the dollar whereas most other commodities did not? A good question. The answer is that about 60 per cent. of American cotton is normally exported and that the export price is a world gold price. Foreigners pay for cotton through the purchase of dollar exchange. As the gold value of the dollar fell dollar prices of cotton went up in almost exact ratio, because otherwise American cotton would decline in gold value and become an exceptional bargain in world markets. Potatoes, eggs, and other commodities produced for domestic consumption are priced in dollar currency and not in terms of the gold exchange value of the dollar."

It seems important to emphasize once more the point that the price-lifting measures constituted only a portion of the programme, which had, as its broader purpose, the restoration of "parity" buying power. There is much factual evidence in financial and trade statistics over the past two years, tending to indicate that the South, at least to outward appearances, has become the most prosperous portion of the United States.

It would be both a pleasure and a source of nationalistic self-congratulation if I could summarize the results of the American cotton programme by confining myself solely to pointing out the price increment, even in terms of the 59-cent dollar, the expected reduction in the carry-over of American cotton from 12,060,000 bales to well below 9,000,000 by July 31, 1935, and to dilate upon the economic betterment of the South as a reflection of these developments.

Unfortunately, as I have previously indicated, governmental treatment of economic problems has a tendency to create new problems clamouring for solution. Members of the International Cotton Congress are too familiar with the decline in consumption American cotton abroad to make it necessary for me to go deeply into this phase. While it is possible to contend that too much of the onus for the decrease in our cotton exports may have been placed upon our cotton programme, it would be futile to deny that our frankly nationalistic methods have been a contributing factor. The high "basis" emanating from the Government loans unquestionably has tended to restrict outside demand. The assumption that

America had embarked on a price-raising career of indefinite duration undoubtedly has resulted in neurasthenic activity to make provision elsewhere for future supplies.

It might be simple enough, under the impulse of current irritations, to content ourselves with this explanation. To dismiss the case so curtly would be to ignore all the barriers that have obstructed the normal interchange of goods in overseas commerce. Tariff policies must be revised, and perhaps those of America most of all, before our cotton exports can reach their normal, or old-time, proportions.

Among the troublesome problems arising out of efforts to develop a general remedial formula, it is impossible to ignore the processing tax and its effect on America's domestic consumption of cotton. Department officials have refused to accept the contentions of the textile industry as to the effect of this impost either on consumption or manufacturing and distributing margins. Space will not permit a presentation of official arguments which, I understand, will be contained in a bulletin scheduled for early publication. The point most frequently stressed by opponents of the tax is its influence on increasing the cost of living.

I am privileged to give certain cost details bearing on the question. On sheetings, 81 ins. x 99 ins. (64 x 64), the approximate tax is 7.6 cents. The average price from November, 1933, to November, 1934, was \$1.31. The percentage of the retail price paid by the consumer, through the processing tax, was 5.8 per cent. In the case of overalls, the tax amounted to about 8.3 cents on a garment retailing at \$1.56, and the percentage of the tax to the retail price was 5.3 per cent. In the case of chambray work shirts, the tax was 3 cents on a garment retailing at 91 cents, and the percentage of the tax was 3.3 per cent.

On this showing, the rigour of the processing tax seems to have been unduly emphasized.

The controversy raging over the processing tax and the numerous technicalities entering into manufacturing costs, mill margins and domestic consumption make it inadvisable for me to attempt to discuss further this complicated issue. A fairly unprejudiced and judicial conclusion might be reached on this problem if there were even approximate agreement between the opponents of the tax.

In regard to the proposal to substitute allocations from the appropriations under the Work Relief Bill for the processing tax, Department officials point out that with the expenditure of this fund the adjustment programme would be left without a source of continuing revenue. Ultimately, officials contend, this would mean the abandonment of the cotton adjustment programme and their efforts to increase the buying power of cotton producers.

In considering the price problems of cotton, not only those relating to the American product but that of other countries as well, it would be purblind folly to ignore the part likely to be played in the textile industry of the future by the developments in organic chemistry. Probably no better picture of the portent from this source can be obtained than by a careful study of a little volume issued under the auspices of the Chemical Foundation, Inc., of New York, entitled "The Farm Chemurgic," by William J. Hale, a scientist who has made a close study not only of synthetic fibres,

but of the entire range of agricultural chemi-biology. When we are confronted with the fact that cotton is 98 to 99 per cent. alpha-cellulose, and that alpha-cellulose can be produced from wood pulp at a price far below a living cost for the farm production of cotton, we have here a threat to world price levels that cannot be ignored.

No one familiar with the marvels accomplished by scientific research and development will be inclined to minimize the effect of the competition arising from the advent into the textile field of such products as rayon, vistra, and other synthetic fibres. Some of these may be in the early stage of development, but the industry and intelligence of science may be counted upon to perfect their qualities. Temporarily this competition may produce price unsettlement, but who can foretell that this gift of science may not ultimately be translated into a boon to mankind in the form of cheaper clothing, and thus release millions of acres of arable land for other productive uses?

Without question the problem that has given rise to the deepest public concern is the effect of crop restriction on the vast economy built up in the South around the cultivation and marketing of cotton. These anxieties partly concern the economic fate of hundreds of thousands of tenants and share-croppers with their families. With control methods curtailing yields to 9,500,000 and 11,500,000 bales compared with a theoretical average capacity of 15,000,000 bales on a base acreage of 44,000,000, queries also arise as to what will happen to the investments in gins, warehouses, compresses, wharves, etc. With every bale of cotton, including picking, until it reaches mill or ship side, carrying costs and labour charges of about \$20 per bale in picking, ginning, baling, compressing, classing and transportation, what will be the effect of short crops on the employment situation in these associated vocations?

I am sure it will be of interest to all to gain an idea of the Administration's approach to these problems. Temporarily an effort has been made to protect the tenant and share-cropper by inserting clauses in the contracts with landowners providing that acreage reduction shall not involve the dismissal or dispossession of a single tenant; otherwise benefit payments will not be made. For the larger solution of this problem, a Bill is now under serious consideration for the establishment of what is to be known as the Farm Tenant Home Owners Corporation. The purpose of this measure is to provide opportunity for a vast group of landless agricultural workers to acquire tracts of land to be sold to them on long-term credits, and the plan contemplates that a great degree of supervision would be exercised over communities of tenant-owners to educate them in the operation and use of their newly-acquired subsistence homesteads. With the successful consummation of such a programme one of the most baffling social and economic aspects of our agrarian problems will be met.

Fears regarding the adequacy of future supplies of American cotton are likely to prove of limited duration. With a shift away from the archaic one-crop system and more concentration on intensive methods, aided by the work of the Extension Division of the Department, it will be possible to produce all the cotton the market can absorb on an acreage substantially below the maximum of recent years. By concentration on the one-crop system, the farmer

has not only robbed the soil and impoverished himself, but he has failed to plant subsistence crops that would have enabled him greatly to reduce the cost of production. Instead of being a farmer, he has undertaken the practically impossible rôle of a competitor in the world markets.

It seems to me that this partial survey should serve to allay anxieties regarding the social and economic problems relating to the position of the tenant population of the Cotton Belt. Moreover, the certainty of ample supplies of raw material not only should serve to quiet the apprehension of our foreign customers but also should provide assurance to the merchandizing industry that both their business and their investments are safe.

What is the position of American cotton to-day? An attempt at evaluation now would be like trying to judge the character of a landscape in the throes of an earthquake. This observation applies to every phase of the world economy. Crises are abnormalities, and the methods employed to deal with them will pass, as passion and confusion subside. I do not believe our Administration intends, or that the temper of the American people will sanction, that a frankly avowed emergency programme shall be permitted to congeal into bureaucratic rigidity.

The supreme tragedy of this baffling problem, in my opinion, is represented by the fact that foreign consumers of American cotton should have been forced to the conclusion that protective measures regarding future supplies were imperative. Cotton is produced by fifty different nationalities and sub-nationalities throughout the globe. In many localities the extension of cotton culture involves costly investments for irrigation projects, purchase of modern equipment and education of labour. The difficulties and disappointments attending these ventures are partially illustrated by the fact that in spite of strenuous efforts to increase production this season, the yield of "outside" growths has fallen below that of last year.

In no portion of the earth is cotton grown under such benevolent conditions of soil and climate, with labour so well trained in its culture, as in the southern portion of the United States. In only a few limited districts is it necessary to resort to irrigation. No cotton-producing area has the advantage of such equipment for the handling of the crop and its transportation to mill or port by rail and motor highway. Throughout the importing and consuming centres of the world, there exists a spirit of commercial kinship and goodwill toward a merchandising system developed in America over more than a century of contact, with mutual confidence inspired by unimpeachable business integrity and ethical standards. Such relationships are priceless. King Cotton, in surveying his possessions, can point to these merchant organizations and echo the immortal pride of Cornelia, Mother of the Gracchi, "These are my jewels."

I am sure you will concur in my concluding hope that international co-operation will succeed in striking off the fetters that now gall the limbs of world trade. I venture also to express not only the hope, but the confidence, that emergency measures, pinning faith so fervidly on the fetish of absolute price, will be replaced by methods taking cognizance of menaces thus created and meet essential requirements with courage and wisdom.

Net Weight Cotton Contracts.

Paper presented by Mr. MARSILIO VOLPI, of the Associazione Italiana Fascista degli Industriali Cottonieri.

AMONG the subjects chosen for discussion at this Congress is that of a "net weight contract" for American cotton. This problem of purchasing American cotton on "net weights" has already been discussed in many International meetings of cotton spinners; it will be, therefore, of interest to the various delegates present at this Congress to learn what has been the experiences of the Italian spinners in enforcing the adoption of their American c.i.f. net weight cotton contract, which has been in existence in Italy since 1932.

This revolutionary attempt to depart from the various c.i.f. and 6 per cent. tare contracts which have regulated, so far, all the exports of American cotton obtained, from the start, the very useful and willing co-operation of the American shippers; consequently the Italian spinners have had hardly any difficulty in obtaining the unrestricted adoption of the Milan net weight contract in two seasons.

As a result, about 1,000,000 bales of American cotton have been imported on net weights to date, and this to the unrestricted satisfaction of all concerned.

The Italian spinners have thus forced to a practical issue this problem of marketing American cotton on "net weights." Furthermore, on the basis of such wide experience, they are now in a position to illustrate to their foreign friends some of the very tangible advantages they are now insuring by having discarded the old method of buying on c.i.f. and 6 per cent. tare terms.

Some of the savings insured by Italian spinners on about 1,000,000 bales imported, so far, on "net weights":—

- (a) The American exporters who have shipped this cotton soon discontinued the practice of adding 7 lbs. to 8 lbs. of unnecessary extra coarse patches to the present gin bale. The American package is namely marketed in America with a total average tare of about 20 to 21 lbs., so the addition of these patches are made necessary by the old 6 per cent. tare terms which regulated all exports.
- (b) As a result, the actual tare on imports to Italy is now averaging about 21 lbs. to the bale, as against 28 to 29 lbs. on the old bales imported from Texas ports.
- (c) The exporters, as a consequence of their savings in the purchase and in the expense of adding extra bagging weights, in the freight transportation, etc., have been very prompt in making adequate concessions in their prices, when based on net weight settlements. *These price concessions amount to 5, and even to 7 or 8 American points*

over 6 per cent. terms, with 1 per cent. franchise (or \$25 to \$40 per 100 bales). Furthermore, our spinners, under the net weight terms, are now paying a price that reflects 100 *per cent. actual cotton received*, whereas, under the old terms they were entitled to receive *but 99½ per cent. of actual cotton*, or sustained a further loss of about 5 points on the basis of 12 cents cotton. So, the total direct savings amount now to \$50 to \$65 per 100 bales, and the settlement of tare differences are made much simpler for everybody.

- (d) Likewise the Italian spinners have been enabled to insure additional savings in connection with the heavy duties they pay on gross weights imported, and in the other handling and transportation charges.
- (e) Furthermore, the real tare, on such unpatched cotton, is more readily ascertained when the cotton is taken up at the landing points; so that the buyers' and sellers' representatives have scarcely any difficulty in agreeing on the amount of tare on the bales. The spinners will readily admit that this is another important step in the right direction, as it tends not only to do away with costly taring operations but also to remove, as far as possible, the otherwise unavoidable practice of stripping the bales of all the coverings in order to establish the amount of patches or weight hidden under the outside cover.

Aside from these encouraging and most tangible savings readily insured from the adoption of a net weight contract, this practical experiment, extended over two years, proves that the recommendations that are now being made by the American Department of Agriculture, and by other leading authorities, to switch over to trading on net weights *can be enforced and extended at once to the entire cotton industry without causing the least inconvenience, even to the holders of old bales*, already covered with initial heavy baggings, and possibly already patched to the fullest limits under the older system of merchandising American cotton.

This is best illustrated by the following procedure adopted by shippers in applying old and new bales against the Milan net weight contract.

In weighing out their bales at the time they are ordered, the weighers have taken a record of the estimated tare on each and every bale (a practice that has to take place in any case under existing rules, with the variance that under these rules many a bale will have to be stripped, and even rebaled, when showing any excess over the allowed tare), and then proceeded as follows in deducting the tares from the gross delivery weights ascertained:—

Say 40 bales were found covered with 21 lbs.	=	840 lbs.
„ 30 „ „ „ „ „ 22 lbs.	=	660 lbs.
„ 20 „ „ „ „ „ 29 lbs.	=	580 lbs.
„ 10 „ „ „ „ „ 30 lbs.	=	300 lbs.
		2,380 lbs.

So, if the gross weight of these 100 bales should have been ascertained to amount to 52,000 lbs., the shippers have been simply

deducting from the above weight 2,380 lbs. of tare, and billed the buyers for the net weight of 49,620 lbs., thus ascertained.

In connection with these Italian imports on net weight it is well to state for the sale of records, that not all the shippers have been exactly in favour of supporting and encouraging this revolutionary departure from their usual selling policies.

Most of these objections have been occasioned, however, by the present practice, existing at concentrating points, to submit the bales to high density compression before the cotton is stored. Therefore, as the shippers cannot establish, in advance, the ultimate destination of the cotton they are storing, they have adopted the rule to patch up at once these bales to the limit of the gross tare allowed on all the international cotton markets. In such cases, it is naturally obvious that the sale of such heavily tared bales will not permit them to make the desired price concessions. In fact, for the reasons already stated, they have to have an extra price of 5 points to offset the greater amount of tare they are expected to deduct on net weights, as compared with the old rules regulating tare settlements on the basis of 6 per cent. tare. It is, however, readily understood that if the trading on net weights should be promptly extended to other markets such objections would at once dwindle, as the farmer and the exporter would have no further cause to use and pay for any excess bagging weight.

So the Italian spinners take this occasion to suggest that all the delegations should give to this revolutionary departure their unrestricted practical support. The Barcelona spinners, as an example, are already importing American cotton on exactly the same lines. Such an initiative on the part of all the foreign consumers of American cotton would be very opportune at this moment, as even the American authorities, and the cotton farmers are now fully aware of all these shortcomings, and quite ready to support and enforce the marketing of American cotton on net weights, both at home and abroad.

In this connection it might be useful to point out the following excerpts taken from a very interesting publication of the Department of Agriculture, relating to American Cotton Tare Practices and Problems, issued in April, 1933.

Under the gross weight system, cotton growers are handicapped in their desire to use cotton bagging, even when relative costs favour the use of their own product. The difference in weight between jute and cotton bagging materials is such that the grower would be penalised financially if he used bale-covering materials weighing less than the allowable tare. Other light-weight bale-covering materials likewise are excluded so long as gross weight transactions continue. Thus the adoption of net weight trading, if properly arranged and safeguarded, should result in economies in marketing, a substantial part of which should be reflected back to the growers.

It seems certain that net weight trading would result in the elimination of useless patching and of the uncertainties which now surround the whole matter of cotton weights, which in turn would reduce the cost of moving the bale from grower to

manufacturer. A part of the savings effected in this manner would doubtless accrue to the advantage of both parties.

All through this publication of the Department of Agriculture, we find an open admission that the American bale is the most unsatisfactory packaged commodity entering the channels of commerce and that only the net weight contract will permit the farmer to put up, at last, his bales with a much lighter cotton bagging.

Direct evidence of the manifold advantages that are within ready reach of realisation, are furnished to us by one of the two American bales exhibited at this Congress by the Department of Agriculture. The bale No 2 is namely put up in a very neat form with a light cotton bagging, and the total tare on this bale can be estimated at *not over 17 lbs*.

As pointed out very strongly by Mr Frederick Holroyd, J P, of Manchester, this is the very kind of American package that we must have in the future, even if the adoption of the cotton covering should entail some extra cost. The use of cotton bagging is also urged in connection with Egyptian cotton, as this is the only way to prevent foreign fibres getting mixed in with the cotton. Furthermore it offers a much better protection to the cotton lint, and the cotton covering can be also of manifold use to the spinner even when removed from the bale at the mill.

Let us hope, therefore, that the American Government will lend its unrestricted support towards the adoption of a suitable cotton bagging, and will also promote at the earliest possible date the marketing of American cotton on "net weights."

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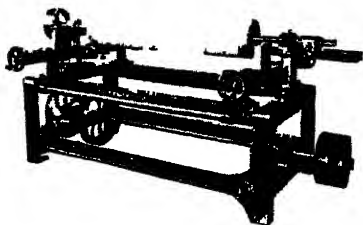
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EGYPTIAN COTTON

FINAL CROP REPORT.

The Ministry of Agriculture published on June 3, 1935, the following figures representing the final crop report for the 1934-35 season. For comparison's sake, we give also the provisional estimate published on October 1, 1934.—

	Final Report Crs.	Provisional Estimate Crs.
Sakellaris	1,002,452	1,242,723
Other long staples varieties of $1\frac{1}{4}$ in. and more ..	1,215,258	1,417,139
Long staple varieties of $1\frac{1}{4}$ in.	212,050	282,842
Medium staple varieties of $1\frac{1}{8}$ in.	4,960,760	5,103,709
Scarto	164,769	170,288
	<u>7,555,289</u>	<u>8,216,701</u>

JUTE FIBRES AND WOOL.

The woollen industry is experiencing difficulties arising out of the presence of jute fibres in the raw material. As with Egyptian cotton, these fibres become intermixed with the wool by way of the bale or pack cover. According to the *Textile Mercury*, the latest attempt to solve the jute fibre problem in the woollen industry was brought into prominence by the visit to Bradford recently of Mr. G. W. Forbes, the Prime Minister of New Zealand. Many attempts have been made to find a substitute for the jute pack, which causes no end of trouble and expense through the shedding of jute particles, especially at points where the pack has been cut open for inspection. It is impossible to eliminate all these particles in the earlier stages of manufacture, and they are often not revealed until after the dyeing process, when, being vegetable matter, they produce a different dyeing result from the wool fibres and are revealed in the form of specks.

A Wellington company has produced a pack made from New Zealand flax, and it is claimed that this will not shed particles of vegetable matter into the wool—at any rate not to the same extent

as true. It remains to be proved whether the flax pack will be strong enough to withstand the rough usage of transport from the farm to the consuming centres. Already a number of these packs have made the journey, and one of them was opened for inspection in the presence of Mr. Forbes. It is too soon yet for a definite verdict to be passed upon the new pack, but a superficial examination suggests that it is an improvement.

TAX REDUCTION ON EGYPTIAN COTTON.

The Egyptian Government, from September 1 next, will abolish the tax of 10 piastre-tariff per cantar as applied to cotton exported. It is also reported that the Pressing Companies of Alexandria which reduced their charges for pressing last year have consented to make a further reduction.

EGYPTIAN COTTON CONSUMED IN THE U.S.A.

Month	(Equivalent 500 lb. bales)								
	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35
August ..	17,629	22,469	18,759	20,285	7,673	5,687	6,398	11,357	7,826
September ..	22,884	19,795	16,297	17,484	7,915	7,096	6,323	8,906	4,514
October ..	20,812	19,413	20,057	20,107	9,429	6,598	7,558	9,525	10,362
November ..	16,383	20,507	17,858	18,263	8,980	6,609	7,908	8,990	8,477
December ..	16,876	18,864	18,003	17,976	10,184	6,509	6,645	6,150	6,803
January ..	17,297	20,199	22,325	19,646	7,782	6,611	5,998	10,227	8,698
February ..	17,042	20,435	19,546	17,036	8,377	6,665	6,261	9,281	7,253
March ..	21,773	17,112	20,515	15,826	8,774	5,263	7,212	10,706	6,453
April ..	19,527	16,460	20,159	18,156	9,763	6,217	6,427	8,552	6,627
May ..	22,146	14,943	20,484	15,947	8,630	6,908	9,819	7,380	—
June ..	26,045	13,951	18,046	13,273	8,898	8,026	9,040	6,284	—
July ..	21,354	18,430	20,343	11,761	7,740	6,085	9,634	6,006	—
Total ..	230,768	217,584	232,392	203,763	104,095	79,464	88,805	103,453	—

CROP REPORTS.

The Commission de la Bourse de Minet-El-Bassal have published the following résumé of information received during June, 1935:—

Lower Egypt: The temperature during June was favourable to the crop.

The plants are developing normally but they are still somewhat backward compared with last year. They present a satisfactory appearance and flowering has begun.

Leaf-worm egg-masses have been reported from all over the Delta, but they are particularly numerous in the Middle and Northern provinces. The Government are using every means to

combat the pest and large numbers of day labourers are assisting the farmers in picking the leaves before the egg masses hatch.

In some plantations the worms have destroyed leaves and flowers; but in general the damage caused, up to the present, is estimated at from 3 per cent. to 5 per cent. of the total area of these districts.

Wilt (Chalal) has done a certain amount of damage in the Sakellaridis plantations. Giza and Maarad have suffered little and, on the whole, attacks have been light.

Water for irrigation has been sufficient.

Upper Egypt and Fayoum: Temperature in June was high except during the last week, when it was a little below normal.

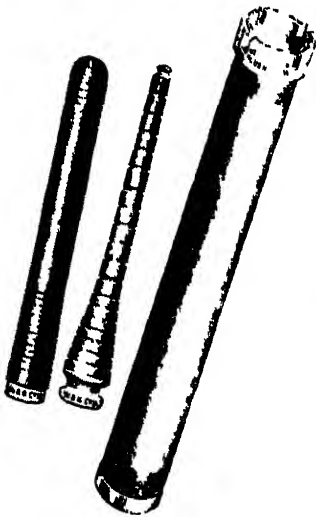
On the whole it was favourable to the plants, which are in good condition though slightly backward.

Leaf-worm egg-masses have been observed. The damage therefrom has been insignificant.

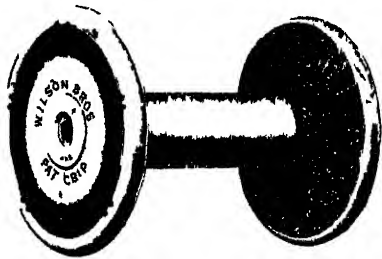
Water for irrigation has been sufficient.

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EXPORTS OF EGYPTIAN COTTON

From September 1 to April 30, 1935

	Season 1934-35	Season 1933-34	Season 1932-33	Season 1931-32
Peel & Co.	77,516	74,992	47,593	53,911
Alexandria Commercial Co.	44,462	50,973	33,614	52,641
Anderson, Clayton & Co.	42,565	29,911	15,493	24,641
Reinhart & Co.	41,927	26,662	21,868	35,647
Carver & Bros.	37,713	77,140	39,526	38,297
Ah. Farghali Bey	36,817	38,236	14,088	15,086
Pinto & Co.	36,039	41,202	28,872	31,915
Soc. Misr	35,870	33,353	38,689	59,507
Choremi, Benachi & Co.	34,975	48,091	23,454	34,233
Eg. Prod. Trading Co.	29,531	38,392	17,352	26,732
Planta & Co.	28,259	24,469	17,403	30,260
Cicurel & Barda	27,408	34,353	21,532	25,160
British Eg. Cotton Co.	25,180	35,364	14,856	16,216
Fenderl & Co.	24,309	24,549	13,730	24,466
Kupper, H.	23,275	20,968	14,092	17,921
Levy Rossano & Co.	22,276	22,455	11,867	10,857
Rolo & Co.	21,043	23,967	14,354	21,821
Japan Cotton Trad. Co.	19,967	21,550	12,243	15,065
Soc. Cot. d'Egypte	15,826	13,399	12,093	11,961
Rodocanachi & Cie.	15,690	10,981	624	210
Salvago & Co.	14,437	25,576	17,229	11,624
Psomadellis & Co.	13,447	13,123	10,211	11,238
Union Cotton Co.	13,088	16,271	10,050	13,554
Getty & Co.	11,209	16,200	7,728	14,480
Eg. Cot. Ginners & Exporters	10,645	15,319	8,590	7,538
Eastern Export Co.	9,876	9,145	6,594	12,558
Alby Al. & Co.	9,657	14,678	13,951	10,641
Escher, W.	9,645	21,326	11,536	17,670
Anglo Continental Cot. Co.	9,401	13,186	4,762	5,969
Francis Levy & Co.	8,085	5,026	5,608	3,267
Daniel Pasquinelli & Co.	7,981	7,929	7,689	7,975
Cotton Co.	7,701	6,968	7,206	9,307
Elia Bondi	7,606	1,036	—	—
Karam Frères	7,488	5,946	—	—
Aghion Riquez & Co.	7,182	11,947	6,121	4,458
Engel & Co.	7,083	10,168	7,112	10,806
Casulli, M. S., & Co.	6,740	5,784	3,385	4,946
Yazgi, A. & W.	6,119	8,369	2,501	700
Gregusci & Co.	5,888	8,799	7,801	9,721
Riches, Stabile et Co.	5,537	—	—	—
Bibace & Co.	5,399	2,899	—	—
Zalzal, F. M., & Co.	4,859	7,640	4,165	5,926
Joakimoglou & Co.	3,975	4,178	2,615	3,474
Comptoir Cotonnier d'Egypte	3,683	9,212	3,258	3,469
Cambas & Co.	3,452	3,427	4,010	4,712
Elia, D. & C.	1,458	380	—	—
Aghion Frères	276	375	—	—
Banca Commerciale Italiana	248	—	—	—
Lumbroso M. et Co.	182	—	—	—
National Bank of Eg.	10	16	—	3,200
Divers	2,373	19,406	18,703	34,652
Total balles	835,377	955,336	584,168	758,492
Pesant Crs. Net.	6,263,136	7,049,307	4,317,814	5,593,723

EXPORTS OF COTTON BY VARIETIES AND COUNTRIES OF DESTINATION

From September 1 to the end of January 1935 and 1934

Countries of Destination	Sakellariadis		Ashmouni		Pilion		Maadi		Giza		Other		Total	
	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934	1935	1934
United Kingdom	33,980	85,428	98,375	169,919	395	3,377	1,133	4,932	1,264	9,894	11,277	11,761	158,424	285,311
British India	2,044	1,629	17,071	6,443	—	457	2,290	2,338	10,471	1,769	1,301	592	33,182	13,228
Austria	342	800	4,241	2,876	—	—	—	20	—	43	144	174	4,727	3,913
Belgium	141	75	5,645	1,923	—	—	30	30	50	—	191	1	5,957	2,029
Canada	—	—	2,400	—	—	—	250	—	100	—	100	—	2,850	—
China	565	100	7,590	3,350	—	600	250	50	1,075	—	50	250	9,830	4,550
Czechoslovakia	2,056	3,288	8,371	8,111	—	1	1,951	1,638	463	105	962	690	14,038	13,833
Ethiopia	—	—	1,780	—	—	—	—	—	—	—	30	—	1,810	—
France	5,270	10,209	42,894	44,354	288	803	2,250	2,386	3,282	3,732	1,455	1,967	55,409	69,451
Germany	3,764	4,246	17,638	46,350	1,711	5,355	200	483	2,492	1,355	1,523	2,150	27,318	58,839
Greece	22	42	973	571	—	—	—	—	—	—	—	—	996	633
Holland	125	—	1,941	777	—	1,030	60	—	328	106	15	—	2,469	1,913
Hungary	215	150	4,389	1,726	—	33	—	—	10	—	160	107	4,771	2,016
Italy	5,753	9,872	48,344	35,913	30	270	513	145	1,460	1,093	533	682	56,633	47,975
Japan	6,035	4,748	64,833	29,174	—	—	3,500	3,605	2,238	40	1,020	3,485	77,626	41,052
Poland	445	1,634	8,161	6,890	60	30	492	1,715	290	10	1,305	115	10,753	10,394
Portugal	497	203	351	300	—	5	300	561	6	—	82	40	1,236	1,209
Spain	3,475	4,359	26,433	19,006	—	1,040	135	290	921	80	480	575	31,444	25,350
Sweden	—	—	2,552	2,110	—	—	15	—	100	—	—	—	2,667	2,110
Switzerland	1,775	1,601	12,131	9,490	45	210	3,888	3,555	3,215	1,036	905	483	21,959	16,275
U.S.A.	2,305	16,009	7,924	13,078	134	19	354	225	3,690	893	767	127	15,174	20,951
Other Countries	10	336	3,899	2,938	—	460	—	—	72	425	60	5	4,041	4,161
Total	68,809	161,329	387,736	404,299	2,898	13,710	17,611	21,973	43,332	20,581	22,331	23,04	542,917	634,996
Centars	508,628	1,115,695	2,861,709	2,985,037	21,267	101,169	129,456	162,036	321,557	151,875	164,083	170,810	4,006,700	4,686,642

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The Handling of Cotton with Cotton in Place of Jute.

*Paper prepared by Dr. W. LAWRENCE BALLS, C.B.E., F.R.S.,
Chief Cotton Technologist to the Egyptian Government, for
the International Cotton Congress, Rome, May, 1935.*

ACCORDING to a statement made by Mr. W. Heaps in 1927, the presence of foreign fibre in Egyptian cotton had been a source of trouble for twenty years. Curiously enough, there is no mention of it in the proceedings of the 1912 Congress of the International Federation of Master Cotton Spinners, which was then held in Egypt for the first time. The matter was brought to my notice by Mr. A. S. Pearse, from the Office of the Federation, round about 1916, but even then it was an old story: since most of the trouble then appeared to be due to pieces of string, I suggested that the substitution of cotton string might be helpful, though it was difficult to envisage any practical compulsion in the matter. We made some tests of cotton string at the Manchester Chamber of Commerce Testing House, and the matter dropped, if only because cotton string of equal strength was more expensive.

The report of the 1927 Congress, again held in Egypt, contains many references to the subject, by Heaps (p. 145), K. P. Birley (p. 156), F. Abaza Bey (p. 159), V. Mosseri (p. 167), and a final resolution (p. 174).

With the formation of the Joint Egyptian Committee of the Federation, as a result of the 1927 Congress, the matter was more fully examined. At the Windermere meeting of this Committee in 1932, some of the pivotal facts were stated, and the details in relation to these were presented by Mr. Arno S. Pearse in a paper to the Prague Conference in 1933.

There was good reason to think that the presence of obvious pieces of string in the cotton might be less important than the inconspicuous presence of single jute fibres rubbed off from the surface of the hessian. A piece of new hessian of good quality, laid quietly on the green cloth of a committee table and lifted off again, leaves the cloth speckled with jute fibres. The use of jute begins in the field, when the seed cotton is picked into hessian bags, and ravellings from the inside of the bag may be added to the single fibres. The risk of accidental mixture of string of various kinds is probably greatest at this stage, and when the bags are opened at the ginnery.

These bags usually make two journeys with seed cotton, and are then opened up to cover the hydraulic bales on their journey to

Alexandria. Roughly speaking, three bags will see one bale of cotton out of Egypt. If the bags are made stronger and last longer, special bale-covering material of lighter quality would have to be provided to fill the vacancy.

Various suggestions have been made with a view to mitigating this inherent defect of hessian. Spraying of its surface with a light dope of cellulose, rubberising, and coating one side with paper, all add to the cost of the material, and are only palliative. The logical thing to do would be to use nothing but cotton, whether as bags in the field, string, country bale covers, or as export bale covers. Unfortunately, the importance of the change seems to go in this order, which is also the order of practical difficulty in making the change. Enforced actual legislation would thus seem to be inevitable.

Nor is it sufficient to legislate for the finer cottons only; admitting that the presence of jute fibres is *relatively* unimportant in the coarser counts, it would seem that the minimum step practicable would be to prohibit hessian for the handling of cotton through the Delta. Thus Pearce has pointed out that one serious source of trouble is the use of sweeping-brooms made of hessian cloth in cleaning the ginnery floors. That the whole cotton industry in Egypt is pervaded by jute fibres can be judged from the fact that even the cotton-handled experimental bales . . . which we shall shortly describe . . . were not entirely free from jute; the Shirley Institute records the finding of jute fibres at 28 broken ends in spinning from six cotton-handled country bales, which had not been broken and re-pressed at Alexandria, during the same time that 125 jute fibres were found from six of the best jute-handled country bales. This in spite of the fact that all reasonable precautions had been taken to keep the material from all contact with jute at every stage. The same presence of occasional jute fibres was recorded in similar trials on cotton-handled bales in the previous season also, and this constitutes rather strong evidence in favour of the new view that gross contamination by pieces of string is merely obvious, but of less importance than the invisible contamination by single fibres.

The dust collected by aspirators fitted to the gins in the Domains ginnery has been found to contain jute fibres in abundance, one or more being found in every pinch of the dust which has been mounted on a microscope slide for examination.

Assuming for the moment that it is administratively possible to compel the use of cotton sacks and coverings at all stages of the handling of the crop, and taking it for granted that this would abolish foreign fibrous material from the export bale of Egyptian cotton, the rest of the problem is purely a matter of costing. What would be the extra cost of cotton bagging, and how much more would the exported cotton be worth to the spinner in consequence?

THE COST OF COTTON-HANDLING.

Three jute bags being used per bale, at 5 piastres each, cost 15 piastres. Cotton bags of similar strength would cost about 18 piastres, and of similar weight about 12 piastres per bag; it might be advisable to alter the present system and use good quality strong

bags in the fields, good enough to last for several seasons, with a low-quality cloth specialized for bale covering only. Such points as this would have to be worked out with reference to the domestic economy of the fellaheen. Contenting ourselves with a first approximation in round numbers, the use of cotton bagging may be estimated at 40 piastres per bale, as against 15 piastres for jute, which is an extra cost of five shillings per bale of 750 lbs., or 0.08d. per lb.

Some reduction in this figure must be made, on account of the value of the cotton-cloth waste which is left when the bales are broken at the spinning mill. Hessian waste has little value, but much of the cotton-cloth waste could be utilized, after a little treatment, as engine-room cleaning cloths. This fact should be borne in mind when designing the counts and picks of the bale-covering cloth in the first instance. A very conservative allowance for this will reduce the cost to 0.05d. per lb. Taking this as a reasonable working assumption, we have now to investigate the more difficult costing of the spinning process, in order to find out whether freedom from jute is worth more or less than 0.05d. per lb.

THE EXTRA VALUE OF JUTE-FREE COTTON.

It was rather discouraging to the representatives of the growers, who wished to give all possible assistance, to find that no spinner was willing to put forward a figure in pence per pound, as an estimate of what his savings would be in the absence of jute. It did not seem to be generally recognized that, as a business proposition, the suggested change-over to cotton cloth was impracticable if that extra value was less than 0.05d. per lb. The effects of future alterations in the price of cotton can be set on one side, and the matter discussed in terms of current prices, for the following reason:—

Recognizing the general principle that an efficient industry is one which makes no waste, we may regard the "scarto" and lowest grades in the Egyptian cotton crop as the "waste" of the cotton-growing industry in Egypt. That this waste has appreciable value as an export product does not alter the fact that it would be better to raise its value by converting it locally into coarse yarn and cloth, i.e., into bale coverings, before exporting it, thus using up the waste. The quantity required, on the analogy of the present tare of hessian, would be $3\frac{1}{2}$ lbs. per bale of 750 lbs., or 35,000 cantars per annual crop of 7,500,000 cantars. The development of the local coarse textile industry to the stage of producing $3\frac{1}{2}$ million pounds of cloth would take time, and the development would be in competition with the weaving industry of other countries, but it would probably be achieved eventually. If prices rose meanwhile the extra value of jute-free fine-spinning cotton would rise further than that of the waste-made cloth, and the procedure would be even more profitable than at present prices. If prices fell it would be less profitable, but they are already so low that a further fall would not disturb the advantage seriously. The present time is thus quite convenient for dealing with the problem safely.

Failing any actual costings from the side of spinning technology, the Egyptian Government undertook to collaborate with spinners in making direct experiments. Special bales were made up on the State Domains in 1933 and 1934, as also by the Missr Export Co. in 1933. These were in pairs, picked from alternate rows in the same fields, one of each pair being cotton-handled, the other jute-handled. It should be noted carefully that the latter were representative of the best practice, and certainly contained less jute than the average Egyptian bale, so that any differences found in spinning would be the smallest difference ever likely to be found, helped by the fact (which we have already noted) that even the cotton-handled bales were not quite free from stray jute fibres.

The cotton used in 1933 was medium Sakel, while in 1934 the range was widened by using pairs of first-picking and pairs of second-picking as well, making four bales in each set supplied to each testing mill.

The cotton-handling consisted in picking into cotton bags, and cleaning up stray jute as far as was practicable at the ginnery, and baling the hydraulic bales in cotton cloth. In 1934 these were exported without further treatment, owing to a fortunate oversight. In 1933 they were broken and re-baled in the usual way at Alexandria, using cotton "sourahs" or bags to hold the cotton during the overnight conditioning, and again using cotton-bale covers.

The valuable assistance rendered by certain spinning firms in carrying out the tests cannot, unfortunately, be acknowledged specifically, but these firms, five in all, undertook the preparation processes, and in some cases the spinning also. In nearly every case the whole procedure was supervised by the British Cotton Industry Research Association staff from the Shirley Institute, where some of the actual spinnings were done. Over 7,000 broken ends have been recorded during the two seasons' tests, representing the spinning of ten thousand miles of yarn from either kind of bale, and the results of these are condensed to the simplest presentation in the following table, which shows the various pairs of bales:—

Year				Approx. No. of Spindle-Hours spun per bale	No. of Broken Ends	
					Cotton-Handling	Jute-Handling
1933	..	..	..	1,000	11	28
				7,000	283	245
				7,000	256	448
				Unknown	(On the same two pairs as above a mill-spinning reported as having given percentage differences thus :	
					(100)	(117)
1934	..	..	..		(100)	(128)
				4,200 in	235	202
				Combed	199	406
				80's	274	369
					246	409
					188	192
					231	322
					150	258
					288	323

Year					Approx. No. of Spindle-Hours spun per bale	No. of Broken Lnds	
						Cotton-Handling	Jute-Handling
1934	..	..	..	Unknown, in	267	233
				Combed 80's	305	348	
				Unknown, in	148	194	
				Carded 60's	203	215	
					<hr/>	<hr/>	
				Totals (excluding brackets)	.. .. 3,275	4,251
					<hr/>	<hr/>	
				Percentage totals..	.. .. 100	130

The supplementary record of breaks in which jute fibres were actually recognized need not be given in full. It condenses to the following statement of totals:—

	Cotton-Handling	Jute-Handling
Breaks in which no jute-fibre could be found ..	3,219	4,004
Breaks showing actual jute to be present ..	45	159

These figures have two important features, namely, the comparative abundance of jute in the cotton-handled bales, and the rarity of recognizable jute at the actual break. The presence of jute in cotton-handled bales is of administrative importance to Egypt; it may be read to mean that jute must be totally excluded from the ginneries if cotton-handling is to be successful. The rarity of recognizable jute shows that the excess of 976 breaks due to the jute-handling must be principally due to disturbances of drafting at some time preceding the actual spinning; thus, a mere count of the breaks at which jute fibres can be recognized must be a notable under-statement of the damage which jute is doing.

These 976 breaks were located during the spinning of 250 lbs. of yarn. Otherwise stated, we located four jute fibres in every pound of yarn, after the combed preparation was completed. This is insignificant in comparison with the amount in the ginnery dust, mentioned above, and must be much less than the amount of normal commercial practice. Yet it was measurable.

The fact that the advantage of cotton-handling persists down to spinnings in carded 60's is also of interest, though the figures are too small to be of much importance, viz., 351 v. 409, or 16 per cent. The parallel spinnings in combed 80's give 572 v. 631, or 12 per cent. If we may yield to the temptation to make as much as possible out of these fragments of information, they suggest the reasonable explanation that combing removes some of the jute.

The counts spun were mostly combed 80's mule twist, and the spinning conditions were obviously good, the breaks being of the order of 6 and 8 respectively per hundred spindles per hour. The 1933 discrepancy between the two sets of tests shows the existence of an appreciable testing error, but even so the significance of the total is statistically good, being subject to a standard error of less than 10 per cent. We thus conclude with reasonable safety that even when spinning conditions are very good, and the counts only moderately fine, and when the jute-handling is the best available, there will be two extra breaks per hundred spindles per hour, as compared with cotton-handling.

This seems a very small difference, not commensurate with the

volume of complaints on the subject, and requires further examination. The principal fact for the moment is that the difference is there, and is real, even under the conditions most favourable to jute. Having regard to our previous discussion of these conditions, it is reasonable to expect that the ratio of breaks would be about 5: 10 per hundred spindles per hour if the whole Delta were using one or the other method of handling.

Before making an attempt at the costing of this difference we must revert to another aspect of interference with production which may be, under some circumstances, much more important than broken ends at spinning, namely, the breakage of ends in winding.

One mill very kindly provided data on this point, based on the winding of about 330 lbs. of yarn from each of two pairs of test bales under conditions not specified. The spinning data are repeated for comparison.

Handling	Number of broken ends					
	In good mule-spinning about 80's			In Winding of 330 lbs. of Yarn		
	Experimental Spinning		Mill Spinning (estimate %)			
	Cotton	Jute	Cotton	Jute	Cotton	Jute
Domains }	283		(100)		9	
Pair }		245		(117)		27
Misr }	256		(100)		13	
Pair }		448		(128)		42

This is a very interesting demonstration of the existence of "postponed breakages," which were dealt with in my "Studies of Quality in Cotton," p. 94, etc. There can be no question of the significance of the result, which is based on the winding of half a bale, ten times the weight of the experimental spinning. The effect of these winding breaks on production will depend on the type of winding, but we were informed that in this particular case the additional 47 breaks (69—22) would mean a 2 per cent. loss of production. We shall presently see that the breaks at spinning do not cause production losses of anything like this magnitude, so that our costing of the loss in terms of spinning breakages only must inevitably be far on the safe side: the total loss of production may well be three to five times any figure we shall reach.

We now have some of the essential facts before us. A cotton-handled bale provides a standard, which gives about five breaks per hundred spindle-hours in very good spinning conditions, to which are added two more breaks when the very best jute-handled cotton is used, and these additional breaks would probably be raised appreciably with ordinary jute handling.

We can derive a figure for this rise from a statement by Mr. Heaps, on p. 535 of the INTERNATIONAL COTTON BULLETIN, 1932, to the effect that ten ends come down per minute per thousand spindles, of which 80 per cent. were due to jute. This gives us an upper limit for the workable number of breakages which can be handled, possibly with the occasional help of a "third piecer." The figure of 82 per cent. is given by Mr. G. Berry on the same page, and is confirmed by another delegate. It should be noted that this is stated as breaks "due to jute fibres," and not as breaks in which actual jute fibres are recognized; our experimental spinnings show that jute fibres were quite rarely found in all the

thousand breaks which these spinnings prove to be due to jute, so that these statements are unexceptionable.

If we re-cast these statements they take the following form. That some sixty breaks per hundred spindles per hour represents the practical working limit. Fifty of these breaks are due to jute, 10 are inherent in the cotton: actually, we found 5 inherent breaks under very good spinning conditions. The two statements thus agree much more closely than is apparent on the surface.

On the other hand, we found two breaks due to jute, in the best possible jute handling. Messrs. Berry and Heaps find 50 due to jute in ordinary commercial cotton; it seems quite legitimate to halve their figure for the demonstrated difference (10 : 5) in spinning conditions, and if we then cut it down still further to 10 breaks we run little risk of exaggeration. Thus our working assumption for costing will be this: that under spinning conditions which would give five breaks with cotton-handling, there will normally be 10 additional breaks for jute-handling. Of course, if jute were eliminated, the speed of spindles and rate of draw could be increased until the breaks came back to some practicable higher figure, if the breaks had previously been the limiting factor in production, but this increase would in its turn be limited by the quality of the product. Discussion of costing on these lines would carry us too far, so we will confine ourselves to the simple cases.

As an example, we consider the arrival of 2,250 lbs. of raw cotton at the mill, or three bales, this being Sakel at 200 points on, or 10d. per lb., for the spinning of 120's twist, worth 31d. per lb. After preparation, 1,500 lbs. of roving reaches the mule.

At the mule, the breaking of an end loses production for three draws on the average before the end is pieced up again. The mule makes 150 draws per hour, or 15,000 draws per hundred spindles. During this time five ends come down in cotton-handled cotton, 15 ends in jute-handled, being losses of 15 and 45 spindle draws respectively, as "idling plant." Thus the effective spinning is 14,985 draws and 14,955 respectively.

Out of 1,500 lbs. of roving we shall have spun, after a given time, 1,408½ lbs. from cotton-handling, 1,495½ lbs. from jute-handling, being a loss of 3 lbs. production, or 0.2 per cent. This low figure is in sharp contrast to the quoted estimate of loss on winding, when there was only one-fifth of our present assumption for jute breakages. This is loss by weight.

Financially, the result is slightly better, since the loss of 3 lbs. of yarn at 31d. leaves us with 3 lbs. depreciated into hard waste of a value approximately 4d. So our loss is $3 \times 31d.$, less $3 \times 4d.$, or 81d. in all, on three bales of raw cotton, or 2s. 3d. per bale, or rather less than 0.05d. per pound.

We saw that the cost of cotton-handling was estimated as being this same figure. Indeed our actual experimental spinnings only gave one-fifth of the number of jute-breakages assumed here, reducing the saving to a mere 0.01d. per lb. Thus, on the face of things, it would appear that, making all reasonable assumptions, the substitution of cotton-handling for jute-handling would only just pay for itself in 120's at the spinning machine. In coarser counts the advantage would seem, on the surface, to be with jute

handling, e.g., if we repeat the above calculation of production for Uppers at 6½d., spun into 40's at 12d., the saving is trivial.

In fact, the case for cotton covering is much stronger than this elementary costing shows; account has only been taken of the cost of roving running to waste through yarn breakages, and the figure thus obtained is the lowest limit of saving. But there are other profit-earning factors, direct and indirect, arising from a consistently lower breakage rate in spinning; the product is of better quality, and also higher efficiencies are attained in the subsequent winding and weaving processes. The evidence of the experiments discussed above shows that the presence of jute fibres in cotton does not merely create a weak place where the jute fibre happens to lie in the yarn; the yarn is more irregular as a whole, presumably from the effects of jute at preceding drafting processes.

The precise determination of the whole amount of saving effected by the trade in using cotton coverings instead of jute in all processes is not easily assessed, and will vary considerably according to the circumstances in different mills; it appears likely, however, that the cotton covering will at least return the extra 5s. per bale required to pay for itself in all Egyptian counts, except perhaps the coarsest.

PRACTICABILITY OF THE CHANGE-OVER.

Most of the practical difficulties involved in making the change have been touched upon. It must be applied to a very large area, probably to the whole Delta, irrespective of the kind of cotton handled, in order to eliminate jute from the ginnery as well as from the fields. Some two million pounds of cotton cloth, suitable for use afterwards as cleaning rags, would have to be produced to handle this area; since it would be useless to have both jute- and cotton-handling in the same area, and since it would take a few years to build up local production, much of the cloth would have to be imported first. Clear notice of at least a year would thus be necessary, and legal compulsion on all parties concerned: grower, merchant, ginner and exporter.

The destruction at one blow of a large portion of the hessian-merchandising industry in Egypt, is not likely to be attained without protest.

But, once done, there can be no doubt that it would help to put Egyptian cotton in a class by itself for fine-spinning, and it is most probable that the Uppers crop would follow suit voluntarily.

Lastly, while jute is the most abundant, serious, and subtle contaminating foreign fibre in Egyptian cotton, it is not the only one, and it is to be hoped that the ever present evidence of this step towards avoiding contamination would raise the standard of all parties concerned towards foreign matter in general.

I am obliged to my colleague, Mr. Hancock, for helpful discussion of this subject; to Osman Abaza Bey for the preparation of the State Domains bales; to Misr Export Cotton Co. for their bales; to the directorate of the five unnamed spinning mills; and especially to the Shirley Institute.

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Results from Eight Years' Working of the Seed Control Law.

*Paper prepared by Dr. W. LAWRENCE BALLS, C.B.E., F.R.S.,
for the International Cotton Congress, Rome, 1935.*

THE seed harvested from the crop of 1926 came under the working of the newly enacted Seed Control Law. From that year onwards we have data which show the composition of all the seed used for sowing the next crop, and of some more seed for which the sowing permit has been refused. There is evidence to show that the commercial seed submitted for permit is neither better nor worse than that which is sent away for crushing, speaking genetically, so that the seed examined each winter may be taken as a true example of the crop of the previous summer.

The actual examination of the seed submitted for permit to sow is done, of course, on drawn samples. The examination of these samples is organized and recorded by Mr. A. K. Bedevian. In the early years of the seed control there was a great deal of false sampling, fraud, and evasion, especially in Upper Egypt, which was eventually suppressed, and the regulations have worked quite well since 1929-1930. Admitting that the sampling is effective, the mass sampled is truly representative, since it amounts to quantities in the region of one-tenth of a million ardebs, or one-fifth of the whole cotton-seed crop of Egypt.

It is of some importance to envisage these quantities in terms of numbers of individual plants. Using round numbers, and keeping on the low side, one and a half million acres per annum are cropped with thirty thousand plants per acre, making up a population of nearly 5×10^{10} plants per annum. For every pair of plants left standing in the crop about a dozen seeds have been sown, or 30×10^{10} seeds. Since this has continued for eight years of working of the Seed Control Law, it follows that the figures here described are the result of a colossal experiment based on the sowing of 2.4×10^{12} seeds, or more than two million millions, and on the growing of 400,000,000,000 individual plants. There have been no previous selection data at all comparable in dimensions.

The principal part of the genetic information about this seed, and the only part with which we are here concerned, refers to the percentage of Hindi seed in the sample. This Hindi seed is very distinct in appearance, being black, naked, and beaked, and the plant which produces it is an altogether different species of cotton from Egyptian, being *G. hirsutum*, like American Upland. Part of the original purpose of the Seed Control Law was to bring about

the elimination of Hindi from the Egyptian crop, but a stage has now been reached at which the retention of a small percentage of Hindi is actually desirable, since its presence is such a convenient index to the existence of contamination in any variety.

HYBRIDS.

The existence of hybrids between Hindi and Egyptian adds some complication to the story. The two species cross easily under artificial treatment, and less easily in the field. The gene make-up is not yet fully known, even for the seed character with which we are here concerned, but it is evidently rather complex. Thus, a cross of the naked Hindi with slightly fuzzy Charara (a temporary and obsolete variety) made in 1905 gave 7 Hindi seeds to 123 Egyptian, suggesting that two genes were concerned. Crosses made by Gadallah Abou el Ela show further complications, thus:—

The slightly fuzzy Ashmouni gave in F_2 25 Hindi, 60 slightly fuzzy, and 12 fully fuzzy, like some American Uplands, suggesting that one of the genes whose absence caused nakedness had been replaced from the Ashmouni.

Sakha 4 as a parent gave, in the same order, 9, 43, 7,—a deviation which suggests a different make-up for this Sakel type.

The full-fuzzy strain of Garofalou did not simply throw naked Hindi from full-fuzz, but also provided normal slight-fuzz, in the ratio of 2, 10, 3, as if its genic make-up was that of Sakha 4, though its somatic expression of a slight-fuzz came out full-fuzz.

There is room for much more research on the fuzz inheritance in this interesting group of crosses, but the main fact for our present purpose is that the Hindi type of seed segregates out again in something like one-seventh of the gross total of offspring, so that by selecting against Hindi seed we are removing a large fraction of the hybrids as well as the Hindi proper.

It remains to consider some scraps of information about the relative proportions of Hindi and Hindi hybrid in such "Hindi" seed as is picked out by the staff engaged on Seed Control Law testing. The composition of a population grown from such seed appears to be about four-fifths Hindi proper, and one-fifth hybrid. Conversely, of course, Hindi hybrids will develop from seed which has the superficial appearance of Egyptian, as we have just seen. However, the exact proportion is of less importance than the recognition of two facts. Firstly, that seed selection procedure can never entirely eliminate Hindi hybrids from an Egyptian crop. Secondly, that a surprisingly large proportion of uncrossed Hindi still exists in Egypt; this can only be due to the differential prepotency of self-pollen, as against foreign pollen, to which attention was directed in 1912.

For the limited purpose of dealing with these statistics we shall therefore not be seriously in error if we regard our population as a simple mixture of two species, and dismiss further consideration of the existence of hybrids between them.

RELATION BETWEEN SOWING AND SURVIVAL.

Our data for the Hindi content of seed sown might bear no relation to the Hindi content of seed harvested if there were any conscious selection one way or the other by the cultivator at the time when the plants are thinned out to two plants per hole. At the instance of C. H. Brown this was tested on the land of some small cultivators, and though it is difficult to get adequate data when such a variable as the psychology of the fellah is concerned, nevertheless, the few figures available look reasonable. The seed they used had given test results around 0.50 per cent. Hindi content. Counts made by trained observers before thinning showed 0.07 to 0.17 per cent., which shows clearly that many of the Hindi seedlings were not recognizable as such in the clump of slightly etiolated seedlings before thinning. Three weeks later, after thinning, the figures were 0.25 to 0.45 per cent., and at the time of flowering 0.54 to 0.66, including Hindi hybrids, which could then be clearly recognized. The agreement is almost exact, even to the slight rise above 0.50, due to the inclusion of hybrids which grew from non-Hindi-looking seeds. Thus, so far as the evidence goes, it indicates that the Hindi content of the seed is not changed by any conscious selection of Hindi by the small cultivators. Such cultivators are systematically advised to remove Hindi plants, but it is not in peasant nature to throw away a half-grown plant which will add to his weight of cotton production if left alone.

HISTORY OF THE HINDI COMPONENT.

There is no definite information concerning the first appearance of Hindi in the Egyptian crop, nor about the source from which it came. Fletcher inclined towards locating its original home in Cambodia. The first written account is by Foaden in 1905, when the Khedival Agricultural Society had initiated a system of hand-picking by small boys, so that the seed sown on the State Domains, of the Afifi variety, was practically free from Hindi, whereas the bulk crop of Egypt contained "considerably over 2 or 3 per cent." The introduction of new varieties, which necessarily start in a Hindi-free condition, also helped in reducing the Hindi population, and by the time I left Egypt in 1914 there was comparatively little Hindi in the fields.

The contrast when I returned to the country in 1927 was amazing, the fields being ragged in appearance almost everywhere except on the State Domains. Actually the condition of affairs was not statistically as bad as it looked, because only a few tall rogue plants per acre are needed to make a field look ragged, but the general appearance of the crop was bad enough to explain the agitated protest which went up from certain merchants when the newly enacted Seed Control Law fixed 2 per cent. as the maximum permissible Hindi content for the seed of any variety. In consequence of this protest the standard was lowered in mid-season to 4 per cent. quite unnecessarily.

Fig. 1 shows the composition of the Sakel seed from the 1926 crop, produced before the seed control had come into operation. There was no 4 per cent. at all in Sakel, contrary to the expert

mercantile opinion, and even the original 2 per cent. standard rejected very little seed. For the rest the curve shows two modes, one around 0.5 per cent, and another at 0.0 per cent., this latter being evidently due to the renewal stock of Hindi-free seed of the previous year derived from the State Domains. Three years later in the same figure we see a marked effect, no seed with 2 per cent. being found, and the mode being shifted to 0.1 per cent.; there is a curious secondary mode at 1.1 per cent. which was traced to the development of a technique of systematic fraud, copied from Upper Egypt. Still three years more, and we find the fraud stopped, the secondary mode gone, and the mode at 0.1 per cent. raised so high that it includes more than half the total crop, while there is now practically no Sakel seed in the country which contains more than a quarter per cent. of Hindi. The action of artificial selection against Hindi has been remarkably effective.

Fig. 2 tells the same story in a more complicated way. To begin with, we have much more Hindi in the crop of Upper Egypt, this being merely an example of Willis's hypothesis of "Age and Area," as we shall presently see, because Upper Egypt was planted from the pre-Afifi crop of the Delta, and did not develop any important area of cotton until the basin-conversion operations of the first decade of the century had been carried out. New strains of Uppers had been introduced after 1914 by official and commercial interests, but in the absence of a Seed Control Law there was no machinery for ensuring their propagation at the expense of the old stock. So we find that the 1926 crop contained a little 4 per cent. seed, had a mode of 1.5 per cent.—much higher than Sakel—and only shows a very small mode of clean seed, due to a limited amount of seed-renewal from such estates as those of Bushra Bey Hanna in collaboration with the Government. Three years later the whole Seed Control Law might have been abandoned, if we had not had the comparable set of data from Sakel to encourage us; the curve is split in two, conditions on the high-Hindi side being rather worse than before, those on the low-Hindi side being only feebly improved; it sounds almost incredible that nearly half the ginners and merchants of Upper Egypt should have been implicated—directly or indirectly—in false-sampling frauds, but such was the actual fact. After three years more we find a more normal state of affairs, approximating to that seen in the Sakel graph, though necessarily somewhat belated.

The district lying in the extreme south of Upper Egypt was comparatively new to cotton cultivation, using pumps on basin lands, and it was there that the results were worst. At first we were inclined to ascribe them to pro-Hindi selection in the field by inexperienced fellaheen, but Fig. 3 shows how the prevention of fraudulent sampling alone was needed. The 1926 curve for this district was not much worse than that for all Uppers, but three years later the effect of the Seed Control Law had been to make the crop rapidly *worse*, not better. Merchants were choosing their worst sacks of seed for sale at sowing-seed prices, having obtained the official seal by false sampling, and pocketing the advantage of a slightly better price for the best sack of seed in selling for

crushing. Still three years later, with fraud checked, the normal shift towards decreased Hindi content is found.

Such is the history of the occurrence of Hindi in the two principal varieties of Egyptian cotton, so far as it is known. We have examined the kind of frequency distribution obtained, and for the rest of this account can now confine ourselves to the average values for each year, but extend our examination to all the varieties cultivated.

CHANGES IN AVERAGE HINDI CONTENT OF EACH VARIETY.

The data of Fig. 1 are included in Fig. 4 as three of the points on the curve for Sakel. This variety started life about 1910, and was necessarily then free from Hindi; up to 1926 we can only guess at its Hindi content by a dotted line in the graph. The 1927 crop was the first to be influenced, though only slightly, by seed-control rejections, but already shows a drop in Hindi content, the drop continues slowly till the 1929 crop, after which it is accelerated by the check on fraud, and even in 1933 it is still falling. The standards of Hindi content permitted for each season's seed are indicated by a line above, and the interesting point will be noticed that this line seems rather to act as a threat than as a cause: the reason is that the Sakel stock is continuously renewed from a large area on the State Domains, which is now an appreciable fraction of the total Sakel area, in its present reduced circumstances. Since seed control prunes away all contaminated seed, room is left to utilize all the renewal seed, and at the time of writing there is probably very little Sakel in Egypt which is more than three generations removed from its State Domains-grown ancestors.

A similar final result is reached along a different path by Giza 7, which is also a renewed stock. The six years of its life have seen an increase in its Hindi content, but not enough to bring more than a few ardebs within the scope of rejection. Nor should it ever do so, as long as the stock is renewed.

Now compare these with two other varieties, Pilon and Casuli. Both are commercial introductions, of which no pure nucleus stock has ever existed, and for which seed-renewal is therefore impossible. Pilon has been widespread over fairly large areas since 1917, while Casuli is a special-market cotton, given careful attention by its owner, on quite small areas. Both show an increase in Hindi, but were regarded as being practically Hindi-free in 1926. By 1930 this increase has carried them above the improved condition of Sakel, and is approaching the stiffer standards now being demanded. By 1933 they are both mixed up with the standard limit line, and the percentage of Pilon seed rejected in that year as unfit for sowing was nearly 80 per cent. of the total crop produced. Even if we neglect the stiffening of the standard required, and the fact that it has cut away all the worst seed in previous years, the deterioration of Pilon in respect of Hindi content—and other rogues unseen—has been ostensibly very sudden. Yet we shall presently be forced to conclude that it has not been sudden at all, but has been merely the emergence to recognisable proportions of a rate of Hindi increase which started soon after the first crop of Pilon was grown.

The cottons of Upper Egypt are similarly treated in Fig. 5. The effect of fraud and fraud-prevention in commercial Uppers is very clear. Up to 1929 the seed-control was sufficiently evaded to allow the average Hindi content still to increase; and though the rate of increase must have been slowed down somewhat, it is clear from the curve that 1930 would probably have seen an average content approaching 4 per cent., with odd lots running nearly up to 20 per cent. Evidently the Seed Control Law was only started just in time. Afterwards the curve drops as in Sakel, though not so fast or so far.

Comparable with Pilion in the Delta is Farouki in Upper Egypt, being also an unrenewed commercial variety. It necessarily picks up Hindi more quickly than Pilion, there being more in the surrounding crops of Uppers. When only six years old it feels the seed-control effect, and in 1933 it is not merely bad but extinct. None was sown.

Giza 3 is a renewed stock and should behave like Giza 7 in Fig. 4. At first glance it would seem that it does not, but here again we are dealing with something resembling fraud in the early stages of its development, when profits were being taken too quickly. Thus we get a poor result in 1932, but this is largely put right in 1933, thus demonstrating once more the value of seed renewal.

In most of the examples thus far considered we have been influencing the Hindi composition of the variety by the artificial selection of seed control. We saw indications of freedom from such influence, and we will now examine these in more detail, in order to see what evidence on natural selection is available as a residuum within this vast mass of data.

NATURAL SELECTION EFFECTS.

In Figs. 6 and 7 the same curves are drawn as in Figs. 4 and 5, but on a more open scale, and with other varieties included. If we exclude the renewed stocks of Giza 2, 3 and 7 altogether, and if we omit the later years for Pilion, Casuli and Farouki, when their composition becomes influenced by rejections in seed control, we find a remarkable similarity between all these curves, and also some differences. The similarities are in their form, the differences in their rates. Both are demonstrated more clearly by re-drawing them on semi-logarithmic paper, in Fig. 8, so that a uniform percentage increase will appear as a straight line, whose angle of slope changes according to the actual percentage rate. We then see that there is a strong tendency to approximate to a constant rate of Hindi increase in all varieties, independently of the absolute Hindi content, and even independently of their location in Upper or Lower Egypt, as instanced by Farouki and Nahda, though the Delta cottons—Pilion, Casuli and Fouadi—(while uncontrolled) have rather slower rates. Even Maarad, which has been more carefully supervised in bulk than any other cotton, shows similar rates in the early stages until the noticeable content of 0.02 per cent. is reached. The slopes of the lines vary so little that the slowest rate of increase is a doubling of the Hindi content in two years, whilst the fastest achieves this doubling in 1.1 years. It is true

that the mean rate for Fouadi is between three and four years, but it passed through two stages of commercial control, as shown.

The general appearance of this Fig. 8 makes it reasonably certain that the increase of Hindi in any uncontrolled variety of Egyptian cotton is due at least as much to natural selection operating on the mixture as to the further admixture of more Hindi from adjacent fields, gins and stores. This is further substantiated by the fact (Fig. 4, etc.) that the neighbours of Sakel in the Delta now show higher contents than Sakel itself.

The interpretation of these graphs seemed so self-evident that it took me some time to realize an essential weakness of that interpretation, to wit, that we did not possess a single shred of evidence to prove that Hindi was more prolific than Egyptian, and the final step of direct experiment had to be made.

YIELD OF HINDI.

A fully effective test of the yield capacity of Hindi in comparison with Egyptian varieties would be a large and lengthy adventure, necessitating many chequer plots in many localities over several years, with various varieties of Hindi itself. Such ideal treatment was not worth while. The average type of Hindi could be obtained by using a bulked seed sample from all parts of Egypt, as obtained in the ordinary hand-picking of the seed control. The comparison could be limited to the two heaviest-yielding Egyptian varieties—Giza 7 and Ashmouni Gedid—and a single set of chequer plots located at Giza would be on land so well-known, and in a site so nicely intermediate for the whole country that any abnormality would be easily recognizable. It was all a question of degree; if the greater part of the doubling-rate of Hindi were due to natural selection, the difference in yield between ordinary varieties and Hindi would have to be of the order of 100: 140 in order to account for the data in Fig. 8. A ratio of 100: 141 would double the Hindi content in two years, while 100: 126 would double it in three. If we found a noticeable advantage for Hindi over Giza 7, this would be enough.

We had also to remember that the "yield" with which we were concerned was the yield expressed as number of seeds per plant. Practically this was the weight of seeds per plant, since the sampling of large bulks from seed control showed the seed weight of Hindi to be almost identical with that of Uppers at 0.090 and 0.087 grams respectively, while other Egyptian varieties tend to be rather heavier than lighter.

The test chequer also took account of the likelihood, which it showed to be actually non-existent, that the yield of a plant in a homogeneous plot of Hindi might be a very different thing from that of a plant sharing the same hole with an Egyptian plant. Sets

of plots were therefore sown with mixed seed in each hole and thinned out so as to leave a Hindi and an Egyptian in every hole as nearly exactly as possible. The twenty-five plots thus gave five replicas of Giza 7, Ashmouni Gedid, and Hindi separately, also of mixed Giza 7 and Hindi and of mixed Ashmouni Gedid and Hindi. The land used was rather low yielding, so as to give about the average yield of all Egypt. The usual routine of observations followed.

It will suffice to show the bolling curves in Fig. 9, where it will be seen that Hindi produces bolling curves (and flowering curves also) of the same type as the Egyptians, but markedly smaller. It is a lower yielder when the yield is expressed in terms of number of bolls. Also, the half-and-half mixtures are quite reasonably intermediate between the two components, so that there is no noticeable proximity effect of one kind on the other.

A test count of the seed produced from the mixed plots shows the importance of other factors in the comparison :—

	Per cent.	Per cent.
Giza 7 ...	46	Hindi, 54
Ashmouni		
Gedid...	38	Hindi, 62
or, taking an average ...	Egyptian, 42	Hindi, 58
or, as a ratio ...	Egyptian, 100	Hindi, 138

This ratio would double our Hindi content in $2\frac{1}{2}$ years with our heaviest-yielding varieties. If Sakel were substituted the ratio would be about 66 to 132, and the doubling would be completed in a single year.

The result of the mixed sowing is subject to minor criticisms, but it can be analysed from the result of the other plots, which incidentally confirm it almost exactly. The following are the principal data :—

	Giza 7	Ashmouni	
		Gedid	Hindi
Weight of contents of one boll, grams	1.58	2.00	2.72
Ginning outturn, per cent. ...	29.90	32.60	19.10
Yield per acre :—			
Lint (cantars) ...	4.25	4.77	3.10
Seed (pounds) ...	955	988	1,515
or, as a ratio (seed yield)	Egyptian, 100	Hindi, 130	

The agreement in the ratio of seed yield taken by different methods, on different groups of plots, could not be any closer.

The explanation for the superiority of Hindi seed-yield is

obvious Though fewer bolls are produced, each individual boll is heavier, and it contains relatively little lint on many seeds

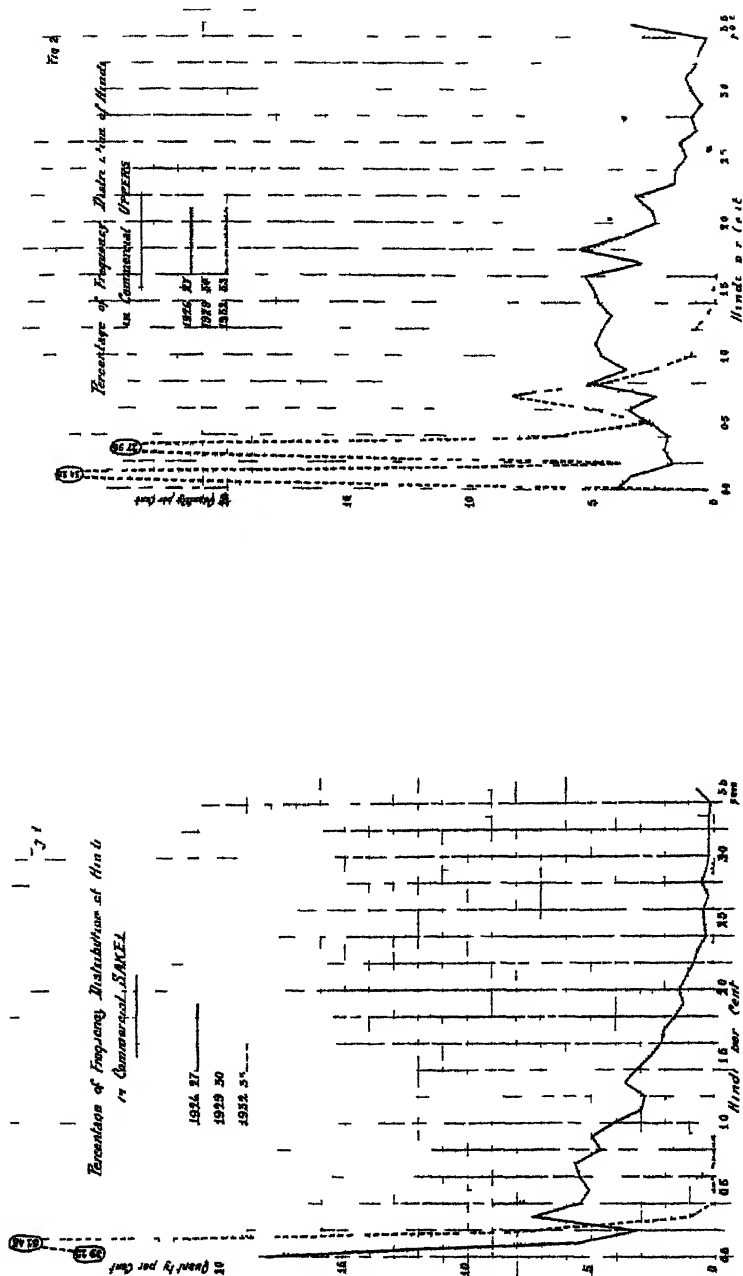
The results are so clear-cut that there is no reason to expect any substantial modification from repetition of the experiment anywhere else, and we may safely conclude that the yield-advantage of Hindi over Egyptian cotton, in terms of seed-production, is such as will enable it to increase its proportion in a mixed population by the simple action of natural selection Moreover, the advantage shown in this experiment is of the right order to bring about doubling of the Hindi content in the times actually indicated by the seed-control data, namely, from one year to three years only

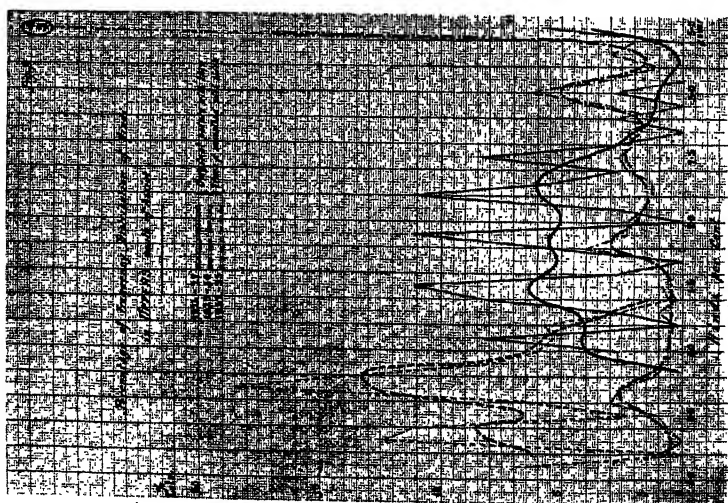
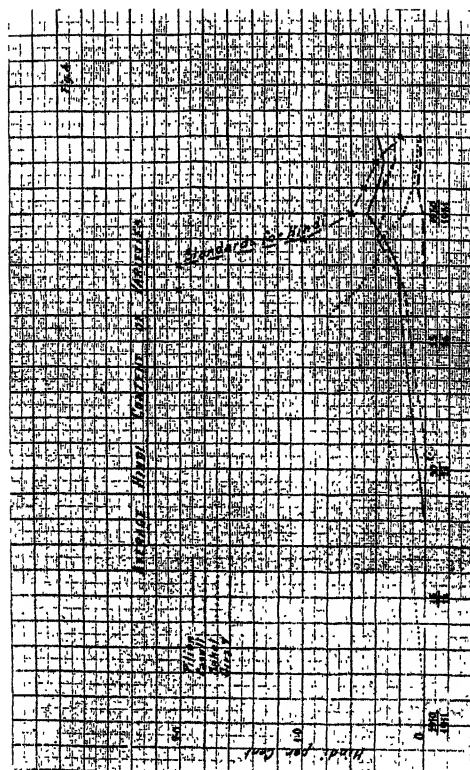
I derive some quiet amusement from looking back to thirty years ago, when many people seriously believed that Hindi arose by a transmutation from Egyptian, and therefore was ineradicable It is strange how unwilling the human mind is to accept simple and reasonable explanations of biological facts

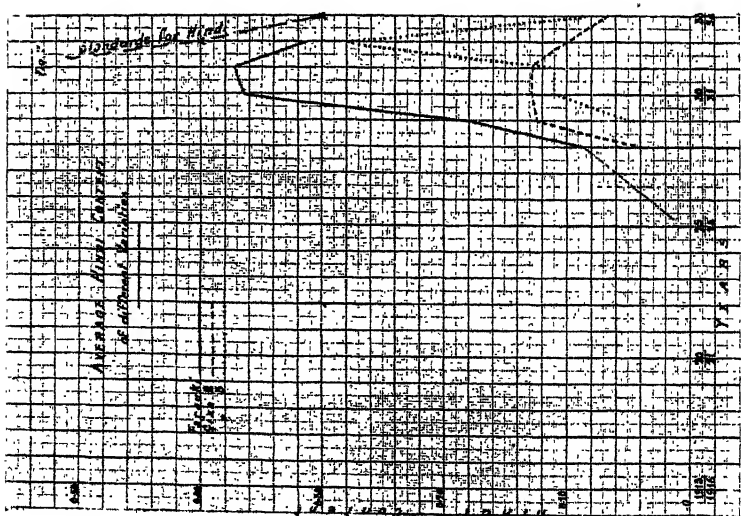
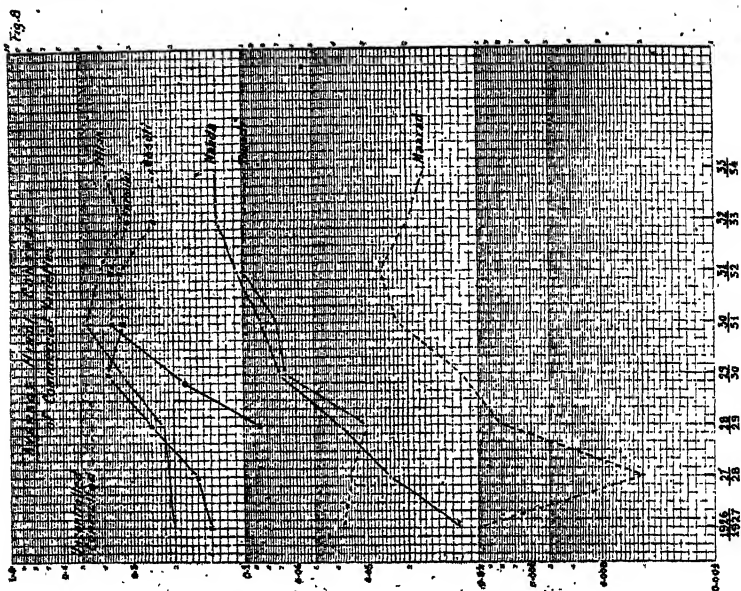
One very interesting consequence results from this present analysis Other things being absent, such as artificial selection, mixture, fraud or disasters, the age of any given sample of a variety could be measured by its Hindi content, if a fixed amount of Hindi contaminants had been added to it when first introduced Things are not actually quite so simple as that, but it is probably true that all new varieties were formerly contaminated similarly by the time they had covered a few thousand acres, and Fig 6 is evidence thereof

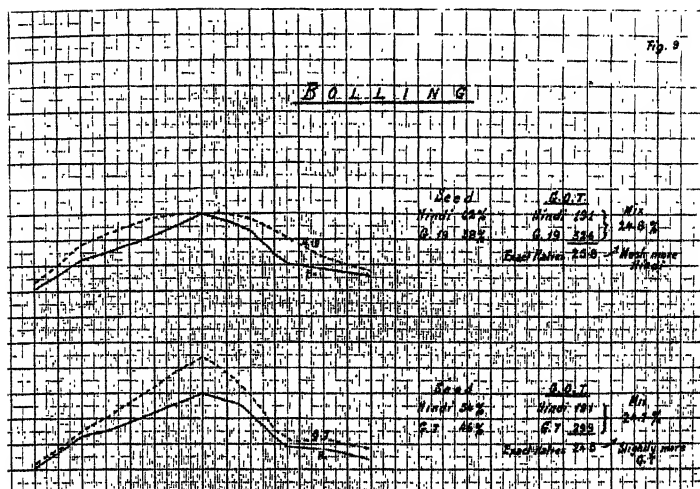
But this alters our outlook upon the use of Hindi in seed control for the future Up till now it has been regarded primarily as an index to contamination, with the decreased amount now present in Egypt as a whole, it has become less useful for that purpose, whereas the smaller initial content of the new varieties makes it more useful as a means for detecting samples which have got too many generations away from the renewal stock

It would seem that until such time as our plant-breeders succeed in producing a variety which will yield more seed than Hindi, as well as more lint, we shall do well to cherish the last survivors of the Hindi population very dearly So far from Hindi being the pest and minor defect which we used to imagine it to be, we can now recognize it as one of the useful assets of Egyptian cotton-growing There is even a possibility that its rôle may be supplemented in the future by deliberately mixing "marker species" with each variety, to enable them to be recognized in the field, and to detect mixture, Willets Red Leaf or the Green-lint Texas cotton, or such Asiatics (which do not inter-cross with Egyptian), as *G sanguineum* and other notably distinct cottons, might very well be of use, now we are no longer afraid that they might take control of our crop if introduced at all









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On the Rationalisation of the Growing and Marketing of Cotton.

Paper submitted to the International Cotton Congress (Rome, 1935), by Dr MOUSSEI BEL NAKHAS, General Secretary of the Egyptian General Agricultural Syndicate

THE effect of the world wide depression on the cotton producer has been particularly severe. Consider Egypt only. A comparison made in 1932 between the prices of cotton and other raw materials revealed the fact that the values of the latter had merely decreased by 5 per cent in proportion to those of the year 1913-14, whilst quotations on the cotton market during the same period had fallen by 50 per cent. Since then the position has not altered greatly, and is practically the same in all other cotton-growing countries.

Under such conditions producers would have found it impossible to maintain the struggle had they not been helped by the introduction of exceptional and costly measures. These measures constituted the pressure exercised by the State on the markets to maintain prices, monetary advances equalling and sometimes exceeding the value of the goods, the reduction—either compulsory as in Egypt or voluntary as in America, where premiums are paid to the beneficiaries—of the areas under cultivation, the raising customs barriers, the partial remission of agricultural debts, the granting of long terms of credit for the payment of balances, together with a notable lowering of the rate of interest, etc.

However, all great disasters carry their own lessons. A primary law of political economy—that of supply and demand, known to everybody but insufficiently respected—forcibly claimed the attention of the parties interested. They all painfully realized what economic disasters will arise from a lack of balance between production and consumption, whether due to an excess in the former or a deficiency in the latter.

It should be noted that the first alarm was given by the spinners at the Cotton Congress held in Barcelona (1929) after they had diagnosed a state of malaise and uncertainty which for good reasons caused concern. Since that time the incipient dangers

which they had observed became unfortunately more apparent, and two years afterwards the Paris Congress recorded the profound distress into which the cotton industry throughout the world had fallen without being able to find adequate remedies for lessening the depression. Tentative suggestions were made at that Congress regarding certain means which, in the opinion of the speakers themselves, could be regarded only as temporary, but would serve until the radical steps which circumstances urgently demanded had been taken, the first being a reduction in production, and the second a lowering of the manufacturing costs through the cutting down of expenditure.

Now, as regards the raw material, certain countries did test the theory of limitation either by dealing with the extent of the sowings or by applying the quota system to the quantities to be grown. This was carried out by Cuba for sugar and by the Stevenson scheme for rubber. As for the Egyptian cotton areas under cultivation, since the war, they were in many instances restricted by legislation, a step which affected more or less favourably the prices of the home article, as was acknowledged by a well-known authority, Mr Daniel Scruys, in his report at the Paris Congress. Still, the limitation found little favour with the spinners, who feared that artificial measures of this kind might suddenly alter market conditions.

The Egyptian experiment was recently repeated by the largest cotton-growing country, the United States of America, where the State intervened to reduce the cotton production in 1934-35, after that of 1933-34 had been similarly restricted by the Bankhead Bill, which placed a prohibitive duty on the surplus. Now, at the time when these lines are written, an appreciable decline in the world's consumption of American cotton is noticeable. Could there be a relationship of cause and effect between these two facts, and must we infer from it that any interference from the Governments in this domain will always be looked upon as a tampering with the free working of the laws of sound economy and the forerunner of violent reactions and lasting disturbances? We hear at present of negotiations which the United States Government intend opening with all cotton growing countries with a view to arriving at an all-round decrease in the production of cotton, so that the latter might not exceed the requirements of the consumers, but it seems very difficult to secure general approval for such a scheme as has been proved in the case of corn. Should this attempt fail we shall have to seek means of bringing the world out of this deadlock while the world's consumption of cotton declined during the years of depression and did not exceed a certain figure in times of prosperity, we are now witnessing a steady increase in the number of countries which endeavour to introduce and develop cotton-growing in their territories, this number, which was only 36 in 1918 and 63 in 1923, rose to 80 in 1932.

Among the newcomers possessing an area suitable for cotton-growing larger than that of the United States of America and boasting of a higher and more economical outturn per acre, Brazil alone is forging steadily and resolutely ahead.

Thus the problem of over-production continues to assume a

threatening gravity, and, if all efforts to solve it should prove of no avail, cotton-growers will not be relieved of their distress, for the latter will last until the irresistible law of natural selection, which rules all human activities, has killed off the weaklings, and through this strengthened the survivors. These will then be able to organize rationally, not by "enhancing the prices as a means to perpetual prosperity," but by striving for the reasonable remuneration obtained by regular work of a conscientiously improved quality.

To secure this strengthening by the most rapid and least painful means, it will be absolutely necessary to apply rigorously the second remedy which was previously mentioned, viz., the reduction of all costs of production and distribution.

There still remains a great deal to be done in that direction, both in the field of agricultural as well as that of industrial production. I feel convinced that if, in the two stages through which cotton goes it were found possible to effect an appreciable reduction in costs, the resulting cheapening of the manufactured articles which would result therefrom would stimulate consumption, would restore the equilibrium which has been upset, particularly since 1929, by production exceeding consumption, and has brought in its train year after year, an accumulation of ever-increasing stocks. Those people who have exercised their minds in an endeavour to solve the problem seem to have realized this necessity after all. In America, for instance, some economists are in favour of giving up the restrictive plan and of allowing a free but economical production. They assert—and we fully agree with them—that the lower costs which would follow would prove a strong stimulant for the consumption of a highly necessary commodity offering possibilities of disposal by far exceeding the 25 million bales with which the whole world is at present satisfied. As a matter of fact, with its multitudinous uses, cotton has on its side limitless prospects, as there are still many millions of human beings who do not use it at all. By offering cotton goods at prices readily accessible to all classes, it goes without saying that the latter will be induced to make much larger purchases; and even if these did not immediately absorb all the stocks, what was left unsold would not cause the disruption of the markets.

The number of workers engaged in growing, handling and manufacturing cotton, including those directly or indirectly interested in it, is so large and imposing that to assure constant occupation for these millions of people and to enable them to carry on their business successfully through larger purchases, and greater consumption is tantamount to solving most of the economic and social problems which, for the last five years, have been a source of anxiety to all countries.

Now, there are still many reductions to be made in the charges and expenses which weigh heavily upon cotton taken either in the raw condition or the form of the manufactured article. For a comparatively long time, this textile commanded high prices—it could stand the heavy burdens it was made to bear: various impositions, Customs and import duties, high charges for rail or sea transport, ginning and pressing expenses, etc. Numerous middlemen had come between the grower and the final consumer, and they were not

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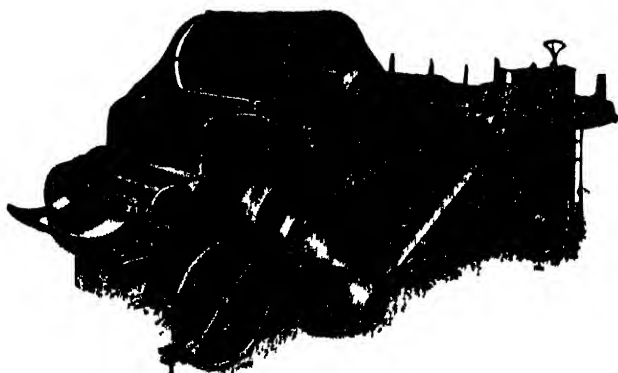
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satisfied with moderate profits. To-day things have completely changed: he who used to be called "King Cotton" has become "Beggar Cotton," and nothing justifies us in assuming that he will again soon see better days. Measures must therefore be taken which will alleviate his crushing burden. Every effort must be made in that direction, and I would suggest that this Congress sends a pressing appeal to all Governments and all parties concerned, so that each and all, as far as they are concerned, might contribute to this amelioration of the situation in the conviction that, by so doing, they are working effectively for the common good.

Another important question is that of the gradual marketing of production, so as to prevent a congestion on the markets at the beginning of each season. Meanwhile those growers who are short of money would be freed from the necessity of selling their harvest within a period of two or three months, a harvest which can be consumed in twelve months only. In affording them an easy and an inexpensive means of credit during this period, we should be doing them a distinct service and commercial transactions might be protected against these wild price fluctuations, which only originate by offers falling upon a market denuded of buyers. Such a means is to be found in monetary advances made on easy terms and covering the greater portion of the price of the goods handed over as a security.

Until the establishment in Egypt of the Egyptian Bank of Agricultural Credit, under the patronage and with the financial backing of the State, such advances could only be secured from ordinary banks. Owing to the onerous and particularly strict terms imposed upon the mass of borrowers, the majority of the latter had no other alternative but to dispose of their cotton at any price.

As a matter of fact, these banks have never specialized in, nor were they intended for this type of business, which they undertake as a side-line only; consequently they make very high charges for interest, storage, insurance, etc. Moreover, as these banks keep a careful control over their monetary assets—mostly of foreign origin—at the first alarm they will either immediately clear out the cottons pledged or effect heavy sales of future contracts. As a rule, the forms of advances upon goods contain a clause, often overlooked by the borrower, which empowers the bank to sell future contracts if it chooses to do so, and without any intimation thereof to the other party. Should this take place at an inappropriate time, and, as is often the case, be preceded by other sales for the account of speculators who have heard rumours of the bankers' intentions, these sales can but strengthen the bearish tendencies, leaving the borrower uncovered and end in a compulsory realization of the pledge if the borrower is unable to pay the margin demanded of him immediately. It is easy to imagine that a panic may result, which will deeply affect the course of the transactions in cotton.

In this respect the method followed by the Egyptian Bank of Agricultural Credit gives full satisfaction to the producers, to whom alone advances upon goods may be granted. The bank lends up to 80 per cent. of the price of cotton ruling on the day of the loan, and whatever subsequent fall may occur on the markets, no fresh

margin is demanded, no sale of future contracts effected, no liquidation takes place before the expiration of the contract. On the other hand, in the event of the prices rising, the depositor is entitled to an increase in the loan equivalent to the amount of the rise.

The granting of these facilities is attended by very little risk indeed, since the loans are granted only to *land-owners* growing cotton, which means that the balance due after the conclusion of the transaction can almost invariably be recovered integrally.

Moreover, the beneficial effects of this method and its welcome reactions upon the market would not be dearly paid for by the loss—largely hypothetical, at the time of an acute crisis, of a small fraction of the sums owing.

Meanwhile, the producer is afforded by the Egyptian Bank of Credit the following facilities:—

1. A rate of interest at 4 per cent. yearly and very moderate trade charges to all growers who have joined an agricultural co-operative society. This preferential treatment has been instituted with a view to increasing the number of such societies in Egypt.
2. The use of bonded warehouses in all the principal villages in the territory. (To-day these warehouses number 427.) Storage may also be effected in the proprietors' own warehouses, a fact which enables the owners at times to save considerable sums in transport charges when their goods have to be forwarded to the bankers' warehouses. This year the number of such privately owned warehouses reached 1,870.
3. A maximum reduction in warehousing charges.
4. Rapid pledging and loaning transactions, thanks to the existence of 79 sub-agencies in the district legally empowered to effect the operation on the spot and without requiring the consent of agencies established in the chief towns of the provinces.
5. Finally, this bank has set up other kinds of advances, which are all intended to meet the agricultural requirements of the producers without the latter having to sell their goods at prices which they consider unremunerative. Both at sowing and at harvest time small owners and agricultural co-operative societies may secure a total advance of two Egyptian pounds per feddan cultivated in cotton. Cotton-seed and fertilizers are also sold on credit to all agriculturists without distinction, whether they are small or large owners, tenants or agricultural co-operative societies.

Since 1933—the date on which the Egyptian Bank of Agricultural Credit, founded in 1931, actually began operations—such has been the organization created for remedying an evil which seriously affected the country and prevented hurried sales on the part of the producers. Although the bulk of the cotton held in pledge this year amounted to one million cantars only, this proved sufficient to keep the market steady and maintain the prices within

normal limits. In this manner all panicky tendencies, which could favour none but the speculators at the expense of the whole agricultural population, have been warded off.

In other countries, and especially in America, very liberal terms of credit have been offered to planters.

In concluding, let us express the hope that an all-round improvement in the system of advances on cotton will take place—eventually under the patronage and with the help of the State—and that, in consequence, the very serious distress which all producers of this staple have suffered for the past five years may be relieved.

The moderate heat and humidity of June were favourable to the growth of cotton. Flowering was general in the north of the Delta, except for late crops. The bolls are beginning to form in the early crops. As regards Upper Egypt and the South of the Delta the growth of some early crops was checked, formation of branches and bolls was increasing in the main crop. Manuring and hoeing of late crops continued. Infestation by cotton-worm persisted in the majority of fields in Lower and Middle Egypt. The egg masses are more numerous than usual, they attained their maximum in the third week of June and subsequently diminished. Opening of the bolls occurred on areas that, though large, bear only a slight proportion of the total. The campaign against pests continued to be intense. In some parts of the North crickets were reported to have caused slight damage. They have been combated with poisonous bait. Aphis has attacked scattered areas in Lower Egypt and in some provinces of Upper Egypt. Wilt disease in Sakellaridis is increasing, affecting up to 50 per cent in the fields attacked. According to a cable from the Ministry of Agriculture at Cairo the area under cotton this season is 1,733,000 acres against 1,797,500 in 1934-35 and 1,765,700, the five-year average. Percentages 96.4 and 98.1. (I I A)

Climatic conditions, on the whole, have been satisfactory for the crop, and good progress of the growing plant is reported generally. There is a marked improvement in the situation as regards the leaf worm attack and an appreciable diminution is to be recorded in the number of egg-masses, hatchings during the last few days were so few as to be almost insignificant. Should this continue for a few days more, further damage to the crop need not be feared. The water supply is everywhere adequate for the needs of the crop.

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Cotton exports from September 1 to the end of June totalled 961,000 Egyptian bales (of about 750 lbs each), compared with 1,084,000 for the corresponding period of last season, a decline of 123,000 bales. Exports to Great Britain totalled 264,000 bales against 416,000 last year, to the Continent, 476,000 against 499,000, to the Far East, 189,000 against 114,000, and to the United States, 31,000 against 56,000.

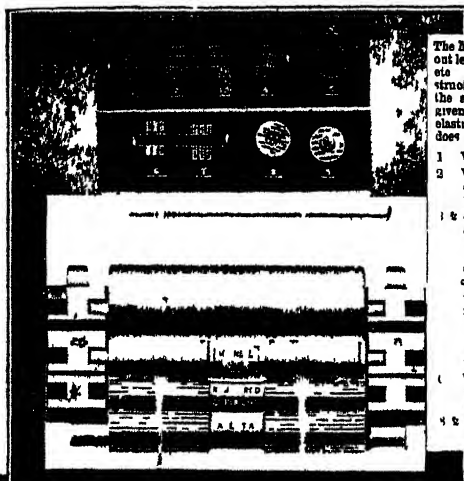
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Steps Taken by the Egyptian Government for the Better Marketing of Egyptian Cotton

*By HUSSEIN BEY ENAN, Director, Agronomic Section,
Ministry of Agriculture, Cairo*

THE cotton crop constitutes over 60 per cent. of the exports in Egypt, and so it is only natural that the Egyptian Government should spare no efforts to improve the crop, whether by selecting better varieties or by shipping the cotton in a state conforming as much as could be to the wishes of the consumers.

The formation of the Joint Egyptian Cotton Committee, which is probably one of the most useful steps resulting from the Sixteenth Cotton Congress, held in Egypt in 1927, has been responsible for a better understanding between both producer and consumer, and has ensured that the wishes of either party are promptly attended to. It is hoped that the advantages of such a body will be felt more and more as years go by.

I do not intend in this note to deal with all that has been done for the improvement of quality, whether by controlling the seed for sowing and the attainment of better standards of purity year after year, or by the breeding of better quality cottons. It is the object of this note to mention a few outstanding features of the main steps taken for the better marketing of Egyptian cotton.

I proposed to deal with:—

- (1) The prevention of mixing cotton varieties.
- (2) The elimination of foreign matter in cotton bales.
- (3) The intended legislation regarding cotton breeders in so far as new varieties are concerned.

THE LAW FOR THE PREVENTION OF MIXING OF COTTON VARIETIES.

Various complaints from spinners were brought to the notice of the Egyptian Government regarding the practice of mixing different cotton varieties. The Government considered these complaints, and decided to exercise the utmost possible control in order to maintain the reputation of the prime product of the country. In 1926 a law was enacted whereby cotton mixing was regarded as a contravention punishable by law. This law only applied to the interior and not to ports of embarkation where cotton has to be blended and re-pressed for export. Not long after this law was put into force it was found that complaints from spinners continued,

and resolutions were taken in almost every Congress whereby the Egyptian Government was asked to take further action to improve the situation.

Steps were immediately taken to modify the existing law, but such modifications were much hampered at the beginning by the impression that such modification would cause serious impediments to the export trade. The law was eventually modified by another law enacted in 1934.

The main differences between the two laws are:—

1. The old law was only executed in the interior whilst the new one extended its execution to the Ports of embarkation.

2. The new law prescribes that seized lots of Mixed cottons can still be used by either:—

(a) Sale as *mixed cotton* abroad, or

(b) Sale by auction at the Minet el Bassal Bourse before it is steam-pressed, or

(c) Sale to the local spinners.

In view of the extension of control to the ports it was found necessary to simplify the method of establishing the responsibility for any mixing. The system which has been unanimously accepted is *the marking of bales* both at the ginning factories and at the pressing establishments. In the ginning factories any bale of non-mixed cotton should bear the mark of the variety of its content, and any bale containing mixed cotton should bear the word "MIXED," while every bale should bear the visa of the agent of the Ministry of Agriculture at the factory. Any bale not bearing the mark and the visa will be considered as mixed and is seized by law; one-quarter of the contents will be added to the profit of the Treasury.

In the pressing factories the same enforcements must be adhered to, as stated above, but exporters can mark their bales by their private mark in addition to name of variety. The law allows the mixing of low grades of Fair and below, and the bales in this case are marked with "Exporters' type" or "Mixed low cotton."

The marking of bales in the pressing houses is done under the supervision of the Government delegates.

These laws concerning the prevention of mixing of cotton varieties were not objected to in spirit by exporters, but there was much fear concerning the means suggested for their execution. It is, however, pleasing to note that so far no objections have been raised by exporters, and the law is being executed smoothly. The lots declared as mixed cottons this year are more in quantity than last year, which indicates the strict enforcement of the law.

It is hoped that spinners have already felt the advantages incurred by the execution of such a law, and naturally it will be

more and more effective year after year—the first year being a year of adjustments to smooth running.

The full text of the new law is given hereafter.

ELIMINATION OF FOREIGN MATTER IN THE COTTON BALES.

Complaints as to the existence of foreign matter in the cotton bales have long been heard. Exporters have been requested to do their utmost in this connection and to appoint a special officer whose duty is to watch and see that such impurities are eliminated prior to the steam pressing.

The latest measure taken was to charge the officials in charge of the execution of the new mixing law both at the ginneries and pressing factories to extend their control towards the elimination of such foreign matter. It was also thought that if a limited number of bales is pressed daily, the matter may be dealt with more effectively, and a letter to this effect was forwarded to the pressing firms for their kind consideration and execution.

In this connection I may refer to the study which is under consideration regarding the use of cotton bags in picking, and the use of cotton cloth in covering the bales. This study is being dealt with in a note which will be presented to this Congress by Dr. W. L. Balls.

CONTROL OF NEW VARIETIES.

Various private plant breeders are continually introducing into the market new varieties, which in some cases do more harm than good. Such varieties, if impure, will contaminate existing ones, rendering them less pure. For this reason a project of a new law is under study whereby no variety will be authorised for sale to cultivators until it is examined by the Botanical Section of the Ministry of Agriculture for two or three years, and passed. Such a procedure will act indirectly to reduce the number of varieties grown—a matter which has long been met with criticism from exporters and spinners.

DECREE No. 51 OF 1934, PROHIBITING THE MIXING OF COTTON OF DIFFERENT VARIETIES.

WE, FOUAD I, KING OF EGYPT,

Having regard to Article 41 of the Constitution;

And on the proposition of the Minister of Agriculture, with the approval of the Council of Ministers,

Decree—

Article 1.—For the purposes of this law, the term “cotton varieties” is deemed to apply to the varieties specified in the annex to this law, as well as to any other variety which may be added to the said annex by arrêté of the Minister of Agriculture.

Article 2.—Except as otherwise provided in para. 3 of Article 12, no person having cotton in his possession or under his control may mix one variety with another.

Provided always that local spinning mills may make such admixture as is necessitated by their business, provided the mixing is carried out within the mill.

Article 3.—Whenever a variety of cotton is found to have been mixed in violation of the above article, a procès-verbal will be made against the person responsible. If in any case the person responsible is unknown, the procès-verbal will be made against the owner of the cotton, who, in the absence of proof to the contrary, will be considered responsible for the mixing.

The cotton will be seized by the official making the procès-verbal and detained at the place of seizure at the expense and risk of the owner, unless the said official consents to its being transferred to another place in the same locality.

Article 4.—The official making the procès-verbal shall submit the matter to the committee referred to in Article 10 on the day of seizure, or at latest on the following day, for examination of the cotton and a decision whether or not it is to be considered as mixed.

If the Committee decides that the cotton is not mixed, or if it gives no decision within 8 days after the date of the seizure, the seizure and the procès-verbal of the contravention become null and of no effect, and the owner of the cotton is entitled again to dispose of it freely.

Article 5.—If the Committee decides that the cotton is mixed, it will be dispatched, if unginned, to the nearest ginning factory to be immediately ginned. It will then be transferred to Alexandria for steam pressing at a pressing factory and exported abroad for sale by auction as mixed cotton.

The administrative authorities will in all cases despatch, export and sell the cotton at the expense and risk of its owner. All expenses incurred by these authorities for guarding, ginning, despatching, pressing, exporting and insuring the cotton, and all other expenditure, including the expenses of sale, will be deducted from the price as a privileged charge ranking as Court fees.

A sum of money amounting to three-quarters of the net price will be handed forthwith to the owner of the cotton, while the remaining quarter will be retained by the Administration until a final judgment has been passed with regard to the contravention.

Article 6.—Notwithstanding the provisions of Article 5, the owner of the mixed cotton may claim to export it himself, provided he deposits in advance with the Administration a sum of money amounting to one quarter of its value as based on the estimation of the Committee referred to in Article 10, which estimation cannot be appealed against.

The owner of the cotton shall also pay to the Administration before exportation such sum of money as it shall consider adequate

for defraying the expenses of ginning, transporting, pressing, and any other expenditure.

The owner of mixed cotton may also claim to have his cotton sold by auction at Minet-el-Bassal before being steam pressed.

In this case, the purchaser undertakes to have the cotton despatched, pressed and exported under the supervision of the administrative authorities. The expenses already incurred by the administrative authorities will be deducted from the gross price, and the net price will be handed to the owner in accordance with the provisions of the previous article.

The owner may at any time demand that the mixed cotton be despatched to one of the local spinning mills, provided he makes the deposit referred to in para. 1 of this article and submits in addition a contract with the mill to the effect that the cotton will be used therein under the supervision of the administrative authorities, and in accordance with the conditions laid down by the Minister of Agriculture.

The rights of the owner provided in this article may be exercised by the mortgagee or assignee.

Article 7.—Every bale that has been hydraulically pressed must bear a mark indicating the variety of cotton contained therein, the name of the ginning factory and the visa of the agent of the Ministry of Agriculture at the factory.

In the case of pure varieties of cotton not shown in the annex of this law, the bales should be marked "not scheduled," without prejudice to the right of the interested person to add any further particulars. These latter, however, shall not be included in the visa of the agent of the Ministry.

In the case of cotton which is found to have been mixed, whether before or during ginning, the bales should be marked "mixed."

Provided always that samples of cotton taken from hydraulically pressed bales, for the purpose of ascertaining their quality and grade, and packed together as a sample bundle, may be added to the consignment from which they were taken without being regarded as mixed.

Article 8.—Any bale of cotton bearing the mark and visa referred to in the previous article shall not be liable to be put in contravention or to be seized for any reason whatsoever.

Article 9.—Any bale of cotton which has been hydraulically pressed and which does not bear the mark and visa indicated in Article 7 will be deemed to contain mixed cotton.

This cotton will be seized by the Administrative authorities, and the bales will be marked "mixed." One-quarter of the cotton will be confiscated by the Government without further proceedings, and a procès-verbal will be made by the official concerned.

Article 10.—One or more Committees will be formed annually by arrêté of the Minister of Agriculture in every governorate or province. Each Committee will consist of five members, of whom two will be technical officials from the Ministry of Agriculture, while the other three will be chosen from the list of experts drawn up annually by the Committee of Minet-el-Bassal Exchange for each governorate or province.

In Alexandria Governorate, however, the Committee will be formed of seven members, four of whom will be chosen from the list of the leading merchants in the cotton trade drawn up by the Committee of Minet-el-Bassal Exchange, while the other three will be chosen from among the official experts at the said Exchange.

The arrêté will also nominate reserve members who will be summoned according to their order on the list to take the place of any member who is absent or unable to attend.

If the Committee of the Exchange fails to submit to the Ministry of Agriculture the list of experts above referred to in due time, the Ministry shall choose them direct.

The decisions of these Committees are final and without appeal.

Article 11.—Any person intending to have a quantity of cotton steam-pressed shall notify the official of the Ministry of Agriculture at the pressing factory of the place, day and hour fixed for the pressing and of the number of bales to be pressed, twelve hours at least before the operation.

Article 12.—Every steam-pressed bale shall bear a mark indicating the variety of cotton contained therein.

If the bale contains cotton taken from bales bearing the word "mixed," it must be marked "mixed."

Provided always that in the pressing factory owners of cotton may mix cotton of "fair" grade downwards, on condition that they obtain beforehand an authorization from the Ministry of Agriculture. The bales containing cotton so mixed shall be marked "exporter's type."

The marking of the bales shall be carried out under the supervision of the official of the Ministry of Agriculture.

Article 13.—Every exporter of cotton shall record in special registers, day by day, the number of bales of cotton which come into his possession on any account whatsoever, and the number of bales pressed by him, whether on his own behalf or on behalf of others. The registers should show the number of bales of each variety and the number of those marked "mixed."

The official of the Ministry of Agriculture may demand to check these books at any time.

Article 14.—The official of the Ministry of Agriculture may at any time proceed to verify the marking of the bales under the following circumstances :—

- (a) If he finds that cotton from bales bearing different marks is being mixed during “*farfara*.”
- (b) If he fails to receive the notification under Article 11.
- (c) If the exporter refuses to produce to him the registers referred to in Article 13; or if these books contain *prima facie* evidence of fraud.

Article 15.—Save in the cases referred to above, no steam-pressed bale which has been marked shall be liable to be put in contravention or to be seized for any reason whatsoever.

Every steam-pressed bale not marked will be deemed to contain mixed cotton, and in this case the procedure laid down in Article 9 will be followed.

Article 16.—In any case, where the mixing of cotton is confirmed under the circumstances referred to in Article 14, the procedure laid down in Articles 3, 4, 5 and 6 will be followed.

In such cases, however, the period fixed in para. 2 of Article 4 will be shortened to 3 clear days.

Article 17.—The penalty for every contravention of this law or of the *arrêtés* issued for its application is imprisonment for a period not exceeding 7 days and a fine not exceeding P.T.100 or either of these two punishments separately. In case of a conviction under Article 2, the sentence must include the confiscation to the Government of one-quarter of the net price of the cotton which has been the object of the contravention.

Article 18.—After sentence has been finally pronounced, the persons whose information has led to the discovery of the contravention will be awarded a sum of money equal to one-half of the amount payable to the Government in accordance with the previous article.

The Administration has an absolute discretion in dividing this sum among the informers.

Article 19.—Prosecutions for contraventions of this law and of the *arrêtés* issued for its application may be initiated by any officer of the judicial police or by any official of the Ministry of Agriculture detailed by the Minister for this work, who shall for this purpose be regarded as an officer of the judicial police.

Such persons are therefore authorized to enter any field, store whether public or private, ginning factory or pressing works. They must not, however, enter such parts of these places as are exclusively used as a dwelling-house.

Article 20.—Law No. 4 of 1926, prohibiting the mixing of cotton of different varieties, is repealed.

Article 21.—The Minister of Agriculture may issue arrêtés making any such temporary provisions as may be necessitated by the putting into force of this law.

Article 22.—The Minister of Agriculture is charged with the execution of this law, which will take effect as soon as it is published in the Official Journal. He is authorized to issue the arrêtés necessary for its execution.

FOUAD.

Montazah Palace, 21 Rabieh Thani 1353,

2 August, 1934.

By Order of His Majesty

(Signed)

(Signed)

ALY EL MANZALAWY,

ABDEL FATTAH YEHIA,

Minister of Agriculture.

*President of the Council
of Ministers.*

*ANNEX to Decree No. 51 of 1934 prohibiting the Mixing of Cotton
of different varieties.*

Sakel

Zagora

Maarad

Fouady

Nahda

Sakha 4

Pilion

Giza 3

Casuli

Giza 7.

Ashmouni

NOTICE.

Decree No. 51/1934, prohibiting the mixing of cotton of different varieties, was approved of by the General Assembly of the Mixed Court of Appeal on June 22, 1934, in accordance with Article 12 of the Mixed Civil Code.

Progress Report of the Spinning Test Station at Giza.

Paper by Mr. H. A. HANCOCK, B.Sc., Ministry of Agriculture, Egypt, at the XVII International Cotton Congress, Rome, 1935.

THE Botanical Section of the Ministry of Agriculture, Egypt, has been engaged for some years on problems associated with the cultivation of Egyptian Cotton, especially with the development of new varieties. The plant selection work has been very successful, and every year an increasingly large number of varieties has come under review.

After classifying the lint from the selected plants by laboratory methods in conjunction with the experienced judgment of an expert grader, it has been the practice to send some fifty or sixty samples every year to Europe to be spun into yarn, for only on the performance of the yarn and the quality of the finished product can the value of a cotton be assessed with certainty. It is generally conceded that in the present state of our knowledge, an evaluation of a new variety based on examination of the lint alone, is not infallible.

Of recent years the magnitude of the work has so greatly increased and the number of samples available become so large, that it is no longer practicable to send all the samples away for spinning tests and be able to receive the test results in time to make decisions before the succeeding sowing season.

Since there are many obvious advantages in having the spinning tests carried out in close co-operation with the grower, the Ministry of Agriculture decided to inaugurate a small spinning plant and testing laboratory of its own, to be attached to the Botanical Section situated at Giza. Apart from its proximity to the Botanical Section with its experimental farm, the site selected is eminently suitable, being within easy reach of Cairo, and its atmospheric conditions, particularly with regard to relative humidity, are much more easily under control than are the very humid conditions higher up the Delta.

The new station is housed in a two-storey building, and covers an area of 15 × 35 square metres. As it is desired to establish inside atmospheric conditions largely independent of outside temperature, the building is heat insulated as far as possible by double walls and windows, and a double roof. Further insulation of the floor and roof is ensured by the introduction of a layer of cork in their construction; and provision is made for cooling the roof by spraying it with water in the hot weather.

The inside conditions are automatically controlled by a Carrier

humidifying system of sufficient capacity to renew the whole of the air in the building every six minutes. This rapid circulation is necessary in order to overcome the inevitable heat gains when the outside temperatures are very high during the summer months, the hot and dry incoming air being cooled by evaporation of water as the air is brought up to the required humidity in the humidifier. The plant is expected to maintain an inside relative humidity of 65 per cent. with a variation of not more than plus or minus 1 or 2 per cent. throughout the year.

All the cotton-spinning machinery is housed in the four large rooms of the lower floor, the upper floor being occupied by an extensive hair and yarn testing laboratory, the humidifying plant, storerooms, a workshop, and offices. A cotton-grading room is also situated on the ground floor, probably the first in Egypt to be maintained at constant humidity.

Being designed to meet rather peculiar requirements, the spinning technique employed merits some description. High rates of production have no place in this unusual spinning mill; the features desired are ability to deal with large numbers of small samples, maintenance of rigidity standard conditions throughout each season and from year to year, and flexibility sufficient to cover a very wide range of counts and twists.

There is no blowing-room machinery, nor is a comber included in the preliminary equipment, although the latter may be added at a later date. Most of the samples are received in the form of seed cotton; during ginning the rough lap falling from the gin roller is fed direct to an endless belt, whence it is wrapped on to a lap rod and presented to the card as a cylindrical lap without any previous cleaning. The card is of standard size, but is clothed with Platt Frères' metallic wire on doffer, cylinder and flats. This clothing has the advantage that the base of the wire does not fill up with cotton during working, so that there is no cylinder or doffer stripping waste. With small samples this feature is of great importance, as the sliver runs at full weight almost immediately, and the first half of the sample is not carded differently from the last half through varying efficiency of the wire. In addition, this wire only needs regrinding at intervals of years, so that the carding conditions are constant over long periods of time, and the constancy of the conditions is not dependent on the skill of the grinder or the accuracy of the resettings consequent upon grindings.

After carding, the slivers are formed into a lap of about 100 ends (using the same endless belt used for the ginned lap) and placed behind the card again to be recarded; manipulation of these small samples is very simple and the eight-yard lap can be made up in a few minutes. The second carding more than makes up for the lack of blowing-room treatment, and the second sliver produced is exceptionally clean, and is regular in weight.

Draw frame and speed frames are of standard type, except that wherever possible leather roller coverings are replaced by cork coverings, as having a more permanently constant drafting surface. The Casablancas drafting system is fitted to the speed frames, not with the object of high drafting, but because this system of drafting accommodates itself to a wide range of staple lengths without

changing the roller settings. This method is eminently suited to experimental installations, when a number of different cottons are being drafted side by side.

With regard to the yarn, two main classes will be spun, both on the ring, one a normal Casablancas drafted yarn from 10 to 15 hank roving, according to the counts; but in addition it is intended to install a ring frame fitted with the new compound drafting system of Casablancas, spinning from slubber roving with a draft of 100 or more in one operation.

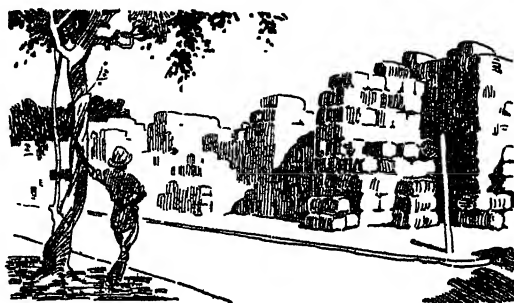
All samples will first be spun into yarn by the latter system, which is very economical in time and labour, and the undesirable samples will be discarded without having cost much time in being detected. It is expected that the poor drafting cottons, which are certainly undesirable whatever good qualities they may possess, will have their defect accentuated at super drafts, and this should assist in their detection.

The better samples selected from these trial spinnings—a much reduced number—will then be reviewed, and confirmation and extension of the preliminary tests will be obtained by further spinning along more elaborate and orthodox lines. The counts spun, the twists, and the method of preparation for spinning will be varied so as to obtain the fullest possible information regarding the selected cottons, in what ways they are satisfactory, and why.

Assessment of yarn quality will, in the first place, be based mainly on the results of lea tests, according to spinners' universal practice, but other supplementary tests are projected. The yarn characters required to give satisfaction for different purposes are fairly well known, but the qualities in the raw cotton required to produce a given class of yarn are less understood, excluding straightforward variants such as colour. These properties will be investigated, and accurate methods of measurement must be developed. Should it be found possible to isolate and measure the factors in lint giving the desired properties in yarn, deliberate selection in the field for such characters and consequent improvement in yarn quality should be much simplified.

The testing laboratory is thus not the least important part of the new Station; it provides a very necessary means of liaison between spinner and grower. Apart from research work of the type just indicated, it will also perform the useful function of tabulating the physical constants of the more important grades of commercial Egyptian cottons and of the yarns spun from them under constant conditions every year. Arrangements have been made with Alexandrian graders to obtain annually typical samples of the commercial crop, samples exactly comparable with the cotton delivered to spinners, and these spinnings will in time form a valuable collection of standard data showing the progress of the crop.

The scope of the work to be undertaken is very wide: the Station is ready to investigate any problem which bears on the improvement of Egyptian cotton. It is therefore perhaps unnecessary to add that co-operation with or enlightened criticism from growers, merchants or spinners of Egyptian cotton, on whose behalf this work is being carried on, will always be welcome.



East Indian Cotton.

COTTON CROP FORECAST.

SUPPLEMENTARY REPORT ON THE COTTON CROP OF 1934-35.

This memorandum deals with the final estimates of the cotton crop, especially of Bombay, Madras and Hyderabad, and supplements the Final General Memorandum on the crop issued on March 7, 1935:—

FINAL ESTIMATE OF THE COTTON CROP OF INDIA

Provinces and States	1934-1935		1933-1934		1932-1933	
	Area (1,000 acres)	Yield (1,000 bales)	Area (1,000 acres)	Yield (1,000 bales)	Area (1,000 acres)	Yield (1,000 bales)
Bombay†	6,812	1,385	6,469	1,421	6,730	1,520
Central Provinces and Berar	4,240	611	4,270	718	4,000	820
Punjab‡	2,878	1,241	2,989	1,105	2,261	651
Madras‡	2,272	455	2,175	452	1,970	410
United Provinces†..	715	194	811	266	526	170
Burma	438	92	445	102	332	64
Bengal‡	74	24	76	24	76	24
Bihar and Orissa ..	42	8	42	8	65	13
Assam	35	14	37	15	37	15
Ajmer-Merwara ..	36	12	36	13	33	11
N.W. Frontier Province	15	3	20	4	16	3
Delhi	4	1	3	§	2	1
Hyderabad	3,101	443	3,096	564	3,602	534
Central India ..	1,173	131	1,152	154	1,007	133
Baroda	800	69	731	90	722	144
Gwalior	633	58	614	59	597	76
Rajputana	492	58	493	65	419	58
Mysore	70	8	77	8	88	10
Total	23,830	4,807	24,136	5,068	22,483	4,657

NOTE.—A bale contains 400 lbs. of cleaned cotton.

* These are revised estimates as finally adjusted by provincial authorities.

† Including Sind and Indian States.

‡ Including Indian States.

§ 300 bales.

Marking of Bales.

At the meeting of the International Cotton Committee, held in Berlin on October last, complaints were received from Germany and other countries in regard to the staining of Indian cotton with oil, and attention was also drawn to the fact that such bales were not stamped with the press mark.

A protest was sent by the Committee to the Indian Central Cotton Committee, and a reply (dated April 5, 1935,) has now been received to the following effect:—

“That the complaint was considered by the Indian Central Cotton Committee at its meeting on February 4, 1935, and its decision is contained in the following resolution, passed unanimously:—

“That the International Federation of Master Cotton Spinners' and Manufacturers' Associations be informed that the rule was amended at the request of the Committee on the representation of the East India Cotton Association, who drew attention to cases of hardship and losses incurred by Bombay merchants because of bales being rejected in arbitration for faults in marking. The chief complaint was that the method of marking, as laid down in the original rule was so meticulous that the East India Cotton Association arbitrators had no option but to reject any bales not marked strictly in accordance with the rule, though the cotton was in all other respects a fair tender, and even at times carried an ‘on allowance.’ Under the circumstances, the Indian Central Cotton Committee regrets its inability to revert to the original rule.”

The following extract, however, which also deals with the same question, is taken from the *Indian Trade Journal*:

“With a view to removing certain ambiguities in the by-laws made under the Bombay Cotton Contracts Act IV of 1932, the Board of Directors of the East India Cotton Association have suggested certain amendments which have been published in the latest issue of the *Bombay Government Gazette*.

“The amendments will be taken into consideration by the Governor-in-Council on or after June 9, 1935, and objections or suggestions will be received by the Secretary to the Government, Finance Department, up to that date.

“The amendments have been drawn up in view of a judgment of the High Court in which it was held, with reference to By-law 74, that the buyer might merely reject the cotton in case of default on the part of the seller and that he could not take any further action against the latter. The by-laws have accordingly been redrafted with the object of giving effect to the intentions and the practice of the trade.

“By-law 53 as amended provides that in the event of any bale in a tender being unmarked or wrongly marked, and therefore not bearing press marks as required by proviso 3 to sub-clause (a) such

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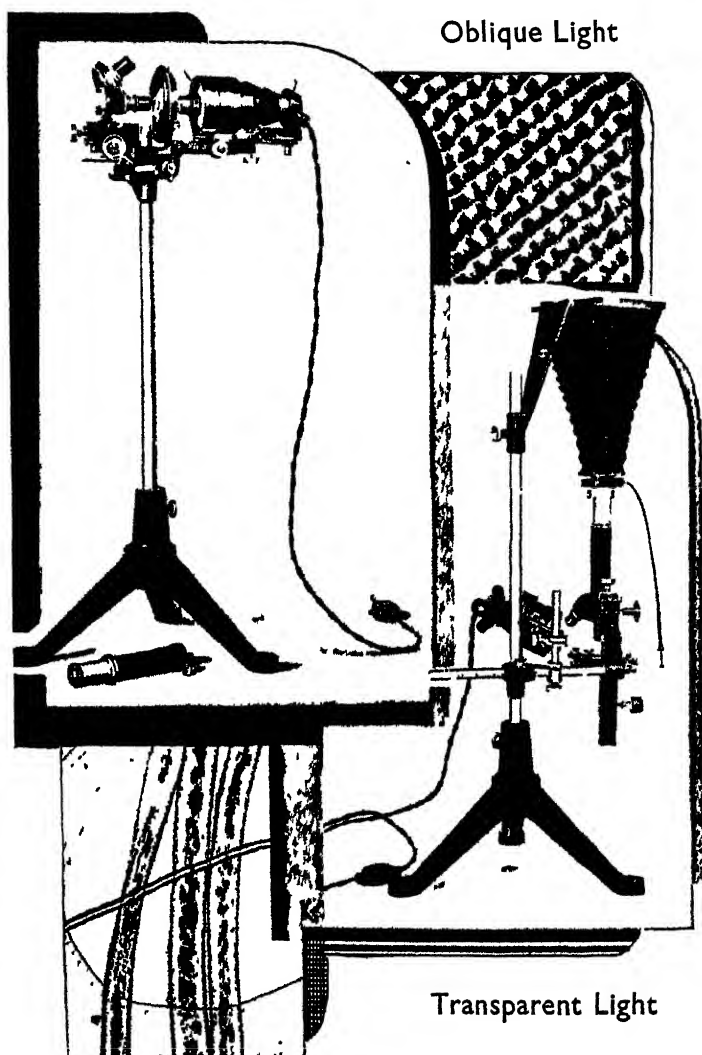
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bale may be rejected by the buyer. He shall be entitled to such amount, if any, as may be imposed by way of a penalty, from time to time, by the Board, provided, however, that the Board shall impose a fixed penalty of Rs. 12½ for the whole unit of 50 bales tendered with marks not sufficiently clear to locate the origin of such bales. The buyer shall, however, be liable to weigh over and accept delivery of each unit of 50 bales tendered that shall comply with the conditions contained in sub-clause (a) less any such bale or bales rejected under this sub-clause.

"It is suggested that the present By-law 61 should be deleted and that the following should be substituted:—

"Cotton will be considered 'not a fair tender' if it is declared not of the description sold, or if it does not conform to By-law 53, or if it is found to be fraudulently packed, in each of which cases the cotton shall be deemed to be rejected and the buyer shall either,

"(i) invoice it back at the spot rate of the day following that on which the final award is given under By-law 35 or 37, or in cases of arbitrations other than those regarding quality under By-law 38, at such a rate as may be fixed by the arbitrators or umpire and, in case of appeal, by the Board; or,

"(ii) buy at a reasonable rate on account and at the risk and expense of the seller cotton of any growth tenderable against the contract.

"Such a tender in the event of the buyer electing to exercise his right of invoicing back shall also be liable to such penalty not exceeding Rs. 50 per candy as may be fixed and imposed by the Board; provided that in any such case no penalty exceeding Rs. 25 per candy, shall be fixed or imposed by the Board, except with the approval of 75 per cent. of the directors present at its meeting."

"EFFECT OF STORAGE PRIOR TO GINNING ON THE SPINNING QUALITIES OF COTTON."

By Dr. Nazir Ahmad, P.S.C., Ph.D., F.Int.P., Director,
Technological Laboratory, Matunga, Bombay. Price,
8 annas.

The aim of the author in conducting these experiments was to determine whether the storage of seed cotton before ginning was beneficial or not. The report appears to lay undue stress upon the injurious effects upon the germinating power of the seed and the probable ill-effects to the lint should the same be stored in a damp condition. Bacterial infection, which is certainly brought about by moisture, is said to cause the rupture of the seed and its oil cells, with consequent matting and felting of the lint. But it appears that these disadvantages are all brought about by damp conditions. Surely one of the main objects of storing seed cotton would be to dry it, and it would be stored in a dry place.

In America it is maintained by many experienced cotton men that if seed cotton is stored under dry conditions before ginning for a fortnight or three weeks, the staple will grow in length $\frac{1}{4}$ in and that the fibre will absorb from the seed a sufficient quantity of oil to give it a silky smooth feel so much appreciated by the spinner

The conclusions found by Dr Nazir Ahmad do not substantiate the experience of the American cotton buyer, except in one case. His findings are quoted below —

“The results of these tests, thus, do not support the view that the development of the cotton fibre continues after picking during the period of storage of seed cotton. Similarly, the other view that during storage oil diffuses from the seed into the fibres is not confirmed by the results of wax determination. Only in the case of one cotton, P A 289F, the wax content of the stored sample was found to be significantly higher than that of the early-ginned sample. As against this P A 4F gave just the opposite result, the wax percentage of the stored sample being actually *less* than that of the sample ginned immediately after picking, while the difference between the values of wax content for the two types of samples of the third cotton, Mollisoni, was negligible.

“The results of the spinning test show that the yarns spun from the sample of P.A. 289F, which was stored before ginning for four weeks, were stronger and more even than those given by the early-ginned sample of the same cotton. This feature, again, was not shared by the other two cottons which gave similar results for the two types of samples except in G's A counts of one cotton Mollisoni — where the stored sample had the advantage.

“Thus, in the case of two cottons, storage of seed cotton before ginning did not bring about any improvement whatever in the fibre properties, wax content, or spinning performance, while it held the possibility of severe loss due to bacterial deterioration. In the case of one cotton only a small improvement in wax content and spinning performance was observed, but it would be rash to regard it as an argument in favour of delaying the ginning operation and to ignore the harmful effects of storage upon the quality of the seed and lint. If, by force of circumstances, it may become necessary to store the seed cotton for a while before ginning, every precaution should be taken to ensure that the sample is dry, that it does not contain large quantities of dirt or trash, and that the atmosphere in the store-room is neither particularly warm nor humid. If the period of storage should exceed a few weeks, the seed cotton should be occasionally taken out and exposed to the sun.”

It is suggested that this subject needs further research, and that the American Department of Agriculture should undertake similar experiments at their Research Experimental Ginning Station.

The Indian Cotton Crop of 1934-35 Season Classified According to Length of Staple.

Based on the Provincial State and All India Cotton Forecasts and information specially supplied by the Provincial and State Departments of Agriculture.

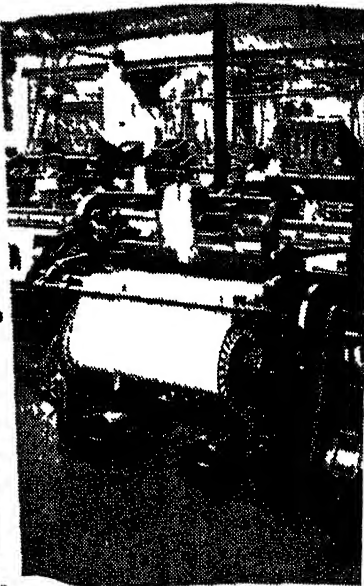
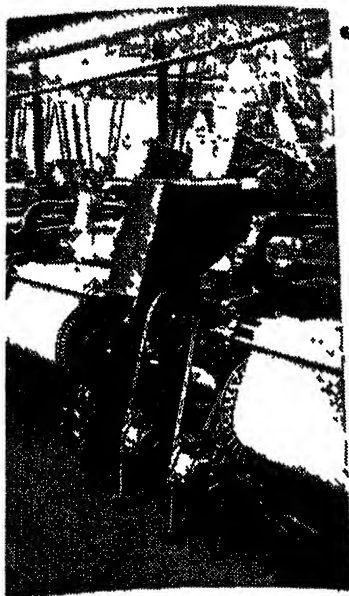
N.B.—The cottons marked * are pure strains evolved by Departments of Agriculture.

(Table prepared by Indian Central Cotton Committee)

Description of Cotton					Estimated Production (In thousands of bales of 400 lbs. each)
Trade Name	Staple Length (inches)	Colour	Feel	Spinning Capacity (in observations)	
LONG STAPLE Over 1 in. (The particulars shown in these columns refer to observations in tests made in past seasons)					
Americans 28 1 —					
(1)*Punjab	31	Bright creamy white	Soft silky	0 s warp or 40 s weft	12
(2)*Sind	31	Bright creamy white	Soft silky	40 s weft	39
Total Long staple					51
Western States 1 in. to 1 1/4 in.					
(3)*Sind 1 in. cotton (10.7 x 1 1/4)	32	Very light white	Soft silky	46 s/34 s warp	42
(4)*Cambodia Co.	32	Bright slightly creamy	Cool silk	30 s warp	50
(5)*Jaxwant	32	Creamy white	Soft bodied	46 s/30 s warp	30
(6)*Western 1 in. cotton (Higini 1)	32	Slightly creamy	Soft bodied	44 s/26 s warp	5
(7)*Karunani 1 in. cotton (C 7 and A 10)	32	White to creamy white	Soft bodied	24 s/46 s warp	29
(8)*C. P. and Berar 1 in. cotton	34	White	Soft good bodied	40 s/24 s warp	19
(9)*Upland 1 in. cotton (Gadga 1)	32	Creamy white	Cool bodied	0 s warp	8
(10) Hyderabad 1 in. cotton	34	Creamy white	Cool silk	44 s warp	129
(11) Surti—Ordinary	34	Creamy	Soft only slightly rough	40 s warp	23
(12) Cambodia (other than item No. 1)	34 to 40	Bright slightly creamy	Cool bodied	42 s/26 s warp	11
(13) Kumpti Dharwad (other than items Nos. 1 and 9)	34	Yellow tinted	Soft bodied	44 s/40 s warp	72
(14) Western and Northern (other than item No. 1)	34	Creamy	Full bodied	16 s warp or 20 s weft	71
(15) Inner-valley (other than item No. 1)	34 to 38	Whitish creamy	Full bodied	16 s/20 s warp	94
Americans 3 1/4 in. N 7					
(16)*Punjab	34 to 38	White	Cool bodied	20 s/24 s warp	395
(17)*Sind	34 to 38	White	Soft silky	24 s warp	37
Total Medium staple					1142
SHORT STAPLE 3/4 in. to 1 1/4 in.					
(18) Salanis	36	White to creamy white	—	12 s/14 s warp	32
(19) Central India Malwa and Nimari	24 to 26	White	Cool	16 s/20 s weft	186
(20) C. P. No. 1 Oomra	20 to 24	Creamy white	Soft	13 s/16 s warp	75
(21) Dholeras—Waid	26	Blue white	Silky	16 s warp	149
(22) Hyderabad Kumpti Dharwad	20 to 26	Creamy white	Soft bodied	14 s/16 s warp	2
(23) Bijapur and Bagalkote Jawar	22	Creamy white	Cool	14 s/16 s warp	39
(24) Hyderabad—Western	20	Creamy white	Full bodied	12 s/14 s warp	37
(25) Broach—Hanvi	24	Very white	Silky	14 s/16 s warp	92
(26) Banula	20 to 24	White	Soft good bodied	12 s/12 s warp	28
(27) Coconadas and Waranul	24	Dark brown	Huish	14 s warp or 20 s weft	29
(28) Benarals—N.W.I.D.	20 to 24	—	—	—	3
Total 3/4 in. to 1 1/4 in.					672
Below 3/4 in.					
(29) C. P. No. 2 Oomra	16 to 18	Cool white	Moderately soft	10 s/12 s warp	436
(30) C. P. No. 3 Oomra	12 to 16	White	Huish	6 s/8 s	81
(31) Kandach Oomra	14	White to creamy white	Slightly rough	10 s/14 s steeling	238
(32) Barsi and Nagari Oomra	14	Creamy white	Slightly rough	16 s/20 s weft	27
(33) Hyderabad Oomra	18	Creamy white	Slightly rough	16 s/20 s weft	273
(34) Dholeras—Matthio	14 to 20	Creamy	Slightly rough	10 s/12 s	434
(35) Bengalis—Bhikhikh and Bundelkhi					3
(36) Bengalis—United Provinces					195
(37) Bengalis—Kupatani					70
(38) Bengalis—Sind (diss.)	12 to 20	Cool white	Full bodied	8 s/10 s steeling or weft	209
(39) Bengalis—Punjab (diss.)					844
(40) Bengalis—Bihar and Orissa					8
(41) Bengalis—Western Bengal					2
(42) Burma	16 to 24	—	—	8 s/10 s	92
(43) Comilla	12 to 16	White or khaki coloured	Huish	8 s/10 s	36
(44) Others	—	—	—	—	4
Total—Below 3/4 in.					2,042
Total—Short staple					3,614
Grand total					4,807

† As advised by the Bombay Millowners' Association. ‡ Redding is yarn spun for the Indian hand loom industry.

§ Includes 230,000 bales of improved variety Molson.



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Mixing Practices in Japan.

The U S. Department of Agriculture have recently published a report entitled "Consumption of American and Other Growths of Cotton in Japan," and this contains an interesting chapter upon the mixing of cottons in the Japanese cotton mills, we reproduce this below.—

"Japanese spinners are said to have developed methods of mixing and blending growths of cotton having a wider range of staple length than those mixed in the mills of any other leading cotton-consuming country. Cotton spinners in the United States apparently confine their mixing and blending to cotton of more nearly the same staple-length designations than is the case in Japan. The same appears to be generally true with respect to spinners in European countries. Until recent years two cottons having staple-length designations differing more than $\frac{1}{8}$ in. were seldom, if ever, mixed by cotton spinners in the United States, but during the last few years there has been some evidence that the practice of mixing a wider range of staple is becoming more common in domestic mills. In Japan, the blending or mixing of two growths having staple-length designations differing more than $\frac{1}{8}$ in. is reported to be not uncommon. Some of the extremes in mixing practices of various yarn counts manufactured in Japan are presented in Table 12 on the next page.

"The necessity for keeping the quality of cotton yarn as nearly uniform as possible, when it is to be used for a specific purpose, tends to prevent extensive changing or shifting from one quality or growth of cotton to another. Nevertheless, wide changes do occur, as for example the extensive shifts during the periods of unusually low prices for American cotton following 1926 and 1931. The ability to make the mechanical adjustments and other changes necessary in such shifts is claimed to enable Japanese spinners to mix and blend various qualities or growths of cotton to their economic advantage. This is said to be an important element in the successful development of the cotton-textile industry of Japan. The influence of this factor may easily be over-emphasized, but each mill has its own particular methods of blending which are frequently guarded with considerable care and secrecy.

TABLE 12—Estimated range of staple lengths by varieties, used in the manufacture of various counts of yarn by Japanese mills —

TABLE 12

ESTIMATED RANGE OF STAPLE LENGTHS BY VARIETIES USED IN THE MANUFACTURE OF VARIOUS COUNTS OF YARN IN JAPANESE MILLS

Yarns by counts	American ins	Broach ins	Acchi ins	Ischi ins	Chinese ins	Waste ins	Chosen ins
Under 10 s	—	—	—	1	1— ₈	1	—
10 s—19 s	1 ¹ / ₂	—	shy 7	1	1— ₈	—	—
20 s—29 s	7	shy 8	shy 4	—	—	—	7
30 s—42 s	1 ₄	—	—	—	—	—	8

* In the finer yarns the range of staple mixtures is much reduced so that in yarn counts ranging from 30 s to 42 s staples differing more than $\frac{1}{4}$ in in length are usually not mixed although Texas $\frac{7}{8}$ in has been mixed with California 1 in under certain price inducements

“Mixing practices apparently vary considerably from one mill to another, but enough information has been gathered from mills in Japan to permit a few general statements with respect to Japanese mills as a group. Bengals, low-grade Oomras, low-grade American, and Chinese, Rangoon, Straits Settlements, and Dutch East Indies cotton are used largely in the manufacture of coarse yarns (under 21’s), while American, Broach, Oomra, Chosenese, and some Chinese cotton are used in the manufacture of medium yarns (21’s to 42’s). In the fine counts (43’s and over) Egyptian Uppers and Sakellaridis are used for the most part, together with a small proportion of Uganda and long-staple American varieties. The use of many kinds of cotton in mixtures enables the Japanese spinners to take advantage of changes in the relative prices of important growths of cottons much more readily than if less flexible mixing practices were followed.”

Combing of Good Quality Indian Cottons.

THERE is enough evidence to show that the present-day tendency in the cotton textile industry lies in the increased production of yarns of finer counts. This can be achieved either by using superior quality cottons or by subjecting cotton of a given quality to some such mechanical treatment as will appreciably raise its spinning performance.

Among the latter the most effective method now available is that known as combing. This method consists essentially in the extraction by the combing machine of a known percentage of the relatively short fibres which are to be found to a greater or less extent in all cottons. The combing process besides serves to parallelize the fibres, which results in a greater regularity and

higher strength of the yarns. It also serves to reduce such undesirable features as neps from a cotton.

Hitherto the combing process has been almost exclusively restricted to the long staple non-Indian cottons. This restriction is presumably based on the assumption that combing, with its consequent rejection of a large percentage (generally from 15 to 25 per cent) of the fibres, is economically suitable for such cottons only. In order to examine the limiting performance, as a result of combing, of Indian cottons and to test, among other things, the validity of this assumption, a series of experiments were carried out at the Indian Central Cotton Committee's Technological Laboratory, Bombay. Four Indian cottons of good quality were selected for these experiments. Each cotton was combed to the extent of 20 per cent and 30 per cent and spun into appropriate counts of yarn on a ring frame using the ordinary and a high-draft system of spinning. The combor wastes extracted from these cottons were respectively mixed with four Indian cottons of suitable low quality, and the mixtures were spun into carded yarns of appropriate counts.

These tests form the subject of a Technological Bulletin (Series A, No. 27) of the Indian Central Cotton Committee. The bulletin comprises five sections and a comprehensive appendix and contains such items of practical interest as a description of the cottons and the machinery used in these tests and full details of treatment accorded to each sample. The results obtained are suitably tabulated and include particulars of fibre properties, yarn test results, waste percentages, yarn breakages during spinning, and the strength, evenness and neppiness of the yarns spun from the various samples.

The joint authors, Mr R. P. Richardson, F.I.I., and Dr Nazir Ahmad, M.Sc., Ph.D., F.Inst.P., discuss the implications of the various results at some length, and they offer the chief conclusions drawn from them in the following summary:—

1. The mean fibre length of the combed material, for each of the four cottons, was either equal to or only slightly higher than that of the carded material. The process of combing, therefore, even to the extent of 30 per cent, did not bring about a large increase in the mean fibre length of any of these cottons.

2. The process of combing, on the other hand, was remarkably effective in reducing the fibre length irregularity of these cottons. The improvement in this direction was most pronounced in the case of cotton (P.A. 289F) which had the highest value of fibre length irregularity. Thus, the combed cottons were only slightly longer but much more regular in length than the carded cottons.

3. The 20 per cent combor waste was found, in each case, to be about 15 per cent shorter than the cotton from which it was extracted. Its fibre length irregularity percentage was, however, independent of the cotton, being nearly 24 in each case. The 30 per cent combor wastes were, on the whole, somewhat longer and less irregular in length than the 20 per cent combor wastes, but, unlike the latter, their mean fibre length did not bear any straightforward relationship to that of the cotton, nor was their fibre length irregularity confined to a narrow range.

4. The hair weight per inch of the comber wastes was either very nearly equal to, or a little higher than that of the carded material, depending upon the botanical variety of the cotton.

5. Yarn breakages on the ring frame were, on the whole, less on the high draft than on the ordinary system, thus making it possible to spin within the economic limit finer counts on the former system.

6. The process of combing considerably reduces, though does not completely eliminate, neppiness in cottons in general, and is most effective in the case of such cottons as P.A. 289F, which ordinarily give rise to neppy yarns.

7. When the low quality cottons were mixed with the comber wastes the yarns obtained from the mixtures were in each case more neppy than those spun from the pure cottons, though in no case were they so neppy as to be unserviceable. Besides the neppiness content of a cotton and a comber waste, other factors, such as the capacity of the two to mix together, operate in determining the neppiness of the yarns obtained from the mixture.

8. The system of spinning, ordinary or high-draft, made no difference to the degree of neppiness of the yarns.

9. Though the yarns spun from the combed cottons were much finer than those obtained from the carded cottons, they were, on the whole, quite satisfactory from the point of view of evenness.

10. The high-draft system gave more even yarns than the ordinary system, the improvement in this respect being more marked in the carded than in the combed yarns.

11. The effect of a comber waste in determining the evenness class of yarns spun from its mixture with a pure cotton depends upon the spinning quality of the former as compared to that of the latter. Where the two are very nearly equal, the yarns spun from the mixture are just as even as, or only very slightly less even than, those obtained from the pure cotton. Where, on the other hand, the waste is of a definitely poorer quality than the pure cotton, the yarns obtained from the mixture are appreciably less even than those spun from the pure cotton.

12. Combing to the extent of 20 per cent. made a very considerable improvement in the spinning quality of each of these cottons, so that it was possible to spin 50's and 60's yarns from cottons which are ordinarily regarded suitable for spinning up to a maximum of 30's warp. The response to the combing treatment, however, was different for the different cottons, and it was found that for these four cottons at least the percentage improvement in spinning quality followed the order of the mean fibre length of the cottons.

13. In practically all cases the high-draft system yielded stronger yarns than the ordinary system, the increase in strength, however, was more pronounced in the case of some cottons than in that of others. It was also more marked in the finer than in the relatively coarser counts.

14. In the case of three cottons the beneficial effects of (1) combing to the extent of 20 per cent. and (2) spinning on the high-

draft system were found to be additive, while in the fourth case in which the effect of the 20 per cent. combing alone was very large, it was not the case.

15. Whereas combing to the extent of 20 per cent. raised the capacity of these cottons to spin into finer counts by a very considerable amount, combing to the extent of 30 per cent. did not *in all cases* confer a benefit commensurate with the additional loss of 10 per cent. fibres. The use of the higher degree of combing may not, therefore, prove an economic proposition in every case. As to when combing should be advantageously pushed up to 30 per cent. and when it should be left at 20 per cent. depends upon the system of spinning employed and the variety of cotton under test. In connection with the latter point, it was found that if 20 per cent. combing produced very large improvement in the spinning quality of a cotton, combing to the extent of 30 per cent. did not appreciably raise its spinning performance. If, on the other hand, the initial improvement resulting from 20 per cent. combing is not so large, there is room for further improvement in spinning quality by extracting 30 per cent. fibres.

16. 20 per cent. combed cottons spun on the high-draft system gave very nearly the same results as those obtained for the 30 per cent. combed cotton spun on the ordinary system. Thus, where the high-draft system used in these tests is or can be made available, it would be more economical to comb the cottons only to the extent of 20 per cent., and employ the high-draft system in their spinning rather than push the combing to 30 per cent. and use the ordinary system.

17. The main causes for the very considerable improvement in the spinning value of a cotton consequent upon combing must be sought in factors other than a mere increase in mean fibre length, these factors being primarily a more regular disposition and greater length uniformity of the fibres in the combed material.

18. Employing a special technique no difficulty was experienced in obtaining yarns from mixtures of comber wastes and low quality cottons. In the case of three cottons the yarns spun from the mixtures were somewhat weaker than those given by the pure cottons, showing that comber waste was poorer in spinning quality than the pure cotton. In the fourth case the yarns spun from the mixtures were just as strong as those obtained from the pure cottons.

19. Only in the case of one cotton—P.A. 289F, the yarn strength results of the 30 per cent. comber waste mixture were definitely better than those for the 20 per cent. waste mixture. In the case of the other three cottons the differences in yarn strength between the two waste mixtures were generally not large.

The work embodied in this bulletin is a valuable contribution to the subject of cotton combing, and in its 31 pages will be found much data, of a specific character, which will be of great value to the practical spinner. The bulletin is available to the public at a nominal cost of Re.1s. from the Indian Central Cotton Committee, Vulcan House, Nicol Road, Ballard Estate, Bombay, but a copy may be examined at the Head Office of the International Cotton Federation.

COTTONISED FLAX SPINNING.

It is stated by Mr. Franklin E. Smith that experiments on the spinning of cut fibre from prepared green flax straw, which have been carried out by Platt Bros. & Co. Ltd., at their Hartford New Works, Oldham, have now been brought to a successful issue. It is understood that the source of the present material is the flax left after growing linseed in Canada. Hitherto, such material in Canada, India, Russia, and other places growing linseed, has not found textile uses.

According to Mr. F. E. Smith, the experiments at Platt Bros.' works have now produced good, strong, even and soft yarns which should find many uses. The yarn spins with few breakages, weaves well, and handles nicely. In preparing the yarn for weaving, and in finishing the cloth, the behaviour of the material is as good as high-grade cotton. The cloth bleaches without prior boiling to a full white by 40 mins. in 1° Tw. sodium hypochlorite, followed by a souring with hydrochloric acid. There is little or no loss in weight. Similarly the yarns and cloth will dye without preliminary treatment. Up to carding, the waste loss of the prepared material amounts, it is stated, to only 1½ per cent. to 2 per cent. The material is prepared and spun on suitable existing cotton machinery without modifications.

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Recent Developments in Cotton Machinery.

Paper prepared by FRANK NASMITH, F.T.I., and WALTER ENGLISH, M.Sc.Tech., F.T.I., for the International Cotton Congress, Milan-Rome, April 29-May 4, 1935, on behalf of the Textile Machinery and Accessory Exhibitors' Federation.

SINCE the authors prepared their previous paper on this subject ("Recent Improvements in Textile Machinery," INTERNATIONAL COTTON BULLETIN, Vol. XI, No. 44, July-August, 1933, pp. 719-739), there have been a number of interesting developments in cotton machinery. These have been mainly concerned with adaptations to and modifications of existing types of machines, rather than with the introduction of new machines embodying revolutionary changes in principle.

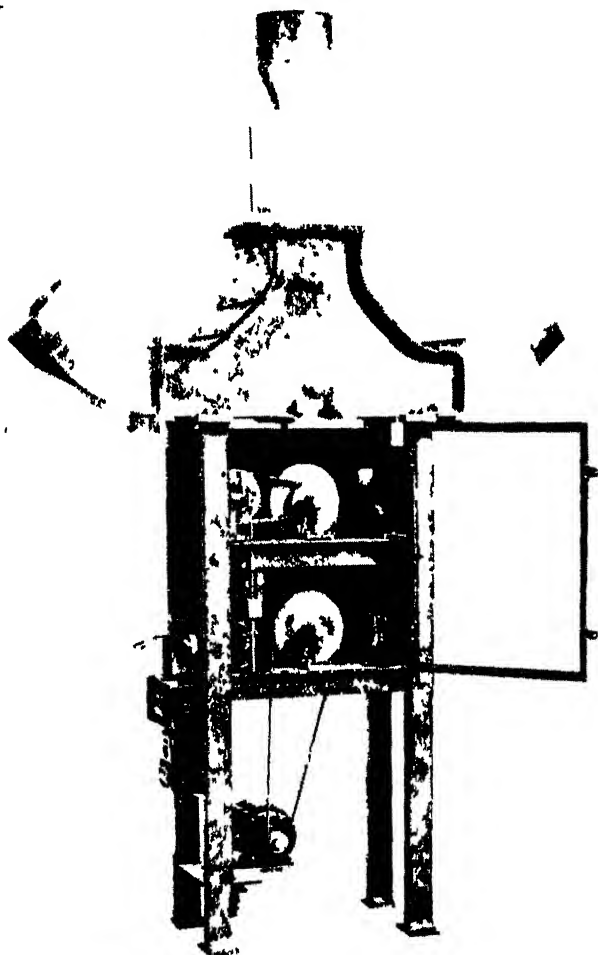
OPENING AND CLEANING MACHINERY.

The paper referred to dealt fully with developments in blow-room machinery, particularly in relation to single process opening. Machinists continue to pay a considerable amount of attention to these machines with a view to producing still cleaner and more regular laps, and improving the bloom of the cotton.

Platt Bros., of Oldham, have introduced a porcupine opener with a cleaning grid which extends 265 degrees round the cylinder, and in which the air bars are independent of the cleaning bars. The machine, which is known as the "Super Grid Area" Porcupine Opener, is also made double, the cotton falling loosely into the second cylinder. Another important application to blowroom machinery is a cotton distributor which is operated electrically, and controls the feeding of the scutchers by the hopper feeders. The device may be placed in practically any position in the room, the control being so sensitive that the cotton, which is conveyed pneumatically, is kept in a free and open condition.

The same firm have introduced a new machine for the opening and cleaning of cotton waste, and termed the "Zig-Zag" Willow. For each revolution of the cylinder the material passes over two sets of porcupine rails and two grids, and the delivery is at either the right or left side of the machine as required. The setting of the timing motion for opening and closing the delivery doors is extremely simple, whilst dust is removed by a fan of large capacity.

Brooks & Doxey, of Manchester, have introduced a fibre reclaiming device for application to openers. It consists of a travelling apron placed under the cylinder bars, and which



1.—Automatic Electrical Distributor.

(Platt Bros. & Co. Ltd., Oldham.)

conveys the droppings to a pair of feed rollers which in turn deliver them to a cylinder covered with saw-tooth wire. With the assistance of a mote knife this cylinder separates the good fibre from the trash, the former being taken back into the machine and mixed with the good cotton.

Saco-Lowell, of Lowell, Mass., have applied a cleaning and blending reserve to their 3-beater single-process scutcher. This device controls the feed of the finisher section and serves as an intermediate feeder. It also cleans the cotton, and as no fan is used throughout the unit, there is no danger of trash being drawn back into the cotton.

CARDING AND COMBING.

Several developments in cardroom machinery are worth noting. Platt Bros. have applied a back stripping motion to their revolving flat card. The flats are stripped over the taker-in, and the strippings are delivered to the lap. The impurities and short fibres in the strips are then, of course, removed by the taker-in, whilst good fibre passes on through the card. An increased production, varying between 1 per cent. and 2 per cent., is thus obtained without any appreciable reduction in quality.

Saco-Lowell have introduced a continuous card stripper which, in addition to being a labour-saving device, increases the output of the card and improves the quality of the sliver. The quality of the carding is also more uniform, since the clothing is not allowed to become choked with fibre as happens just prior to the stripping period.

The combing machine has been improved in various ways. Platt Bros. have introduced a Nasmith "New Model" comber, in which are embodied a number of important mechanical improvements. For example, the pivot of the nipper is fixed above instead of below the cylinder. This arrangement enables several improvements to be applied, namely, the use of a larger cylinder, with three additional rows of needles, diameter of the steel detaching roller increased to one inch, and a reduction in the distance moved by the nipper. The machine runs more smoothly, and all the adjustments are more easily and quickly made owing to greater accessibility. The machine is also considerably narrower than older models. With regard to its manipulation of the material, it has greater cleaning power, increased production, and provides for better control of the waste. The "New Model" machine is also made with twelve heads—six on each side. This double comber, however, is really made up of two independent machines, built back to back on the same framing, and each driven separately. Consequently, when a stoppage takes place, say, due to one head requiring attention, only six heads, and not twelve, cease production, and there is no risk of an operative on one side of the machine starting up the other side. Advantages of the double machine are, a saving in floor space and less walking distance for the operatives. The machine is just as easily adjusted and attended to, because all the essential parts are on the surface, in fact all the adjustments can be performed single-handed and standing upright in front of the machine.

FLYFRAMES.

A "Single Process" or "Controlled Draft" Roving Frame has been introduced by Saco-Lowell. It embodies a high-drafting

system with a special device for folding and condensing the sliver. There are four lines of drawing rollers, the second line having a boss on the bottom roller which fits in a groove in the top roller. The sliver in passing through this groove is folded, thus consolidating the material and preventing ragged selvages and the falling out of loose fibres. The first and second line of rollers are also arranged at a lower level than the two back rows, so that the folding is done as the sliver is passing downwards. The sliver guide through which the material passes before reaching the back rollers consists of a trumpet-like opening which, however, terminates as a narrow horizontal slit, so feeding the sliver to the rollers as a flattened ribbon. The device enables drawframe sliver to be drafted sufficiently to be delivered and twisted as a roving ready for spinning. Consequently, piecings due to creeling are eliminated, and one full can of sliver will provide up to fifteen doffings. The arrangement can be applied to any existing slubbing, intermediate, or roving frames.

Whitin Machine Works have developed a "Super-Draft" Roving system, in which the sliver first passes through a Whitin-Casablancas high-draft slubbing frame, and then through a revolving piece so designed as to insert a false twist which pulls in the selvages. Finally it passes through drafting rollers of standard design. Drafts up to 40 are possible, and rovings as fine as 6 hank can be produced from drawframe sliver. As in the Saco-Lowell system bobbin-creeling is eliminated, and one can of sliver, converted to 5 hank roving, will last about 87 hours.

During recent years there have been a number of interesting applications of chain drives to textile machinery. Not only have these chain drives been utilized for the direct driving of a machine but they have been adapted to convey motion to particular parts of the machine in such a way as to materially improve the working of the mechanism.

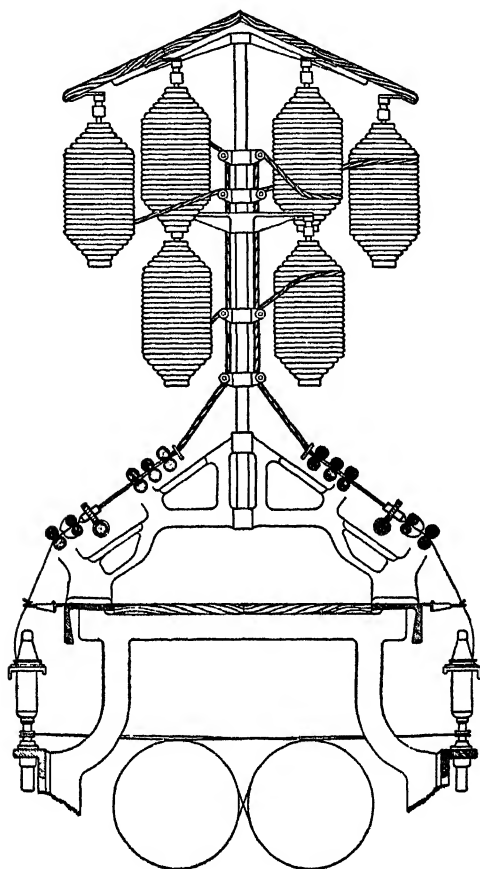
A case in point is a new compensating chain drive to bobbin shafts which has been introduced by Howard & Bullough. It is stated that hitherto chain drives have had the same fault as a spur wheel drive, namely, the speed of the bobbin has not been constant throughout any one lift, but gains and loses according to the rolling motion of the swing wheel round the jack wheel. The new patent chain drive of Howard & Bullough has, in addition to the usual tension chain wheel, a compensator chain wheel, the object of which is to maintain a uniform speed to the bobbin through any one lift.

It is well known that with existing types of drive, if the rail be lowered by hand from top to bottom of lift and vice versa with the spindle stopped, the eye of the paddle of the flyer will not pass down a straight line along the length of the bobbin, but will make a curved line, showing the variation in speed of the bobbin. With the new chain drive, however, the straight line from top to bottom is followed perfectly, due to the compensator chain wheel being controlled by a pendant cam. The compensator chain wheel is carried in a slide and is rigidly connected to a bowl which is pulled

against the aforementioned pendant cam by the pull of the chain. The bowl moves up and down with the compensator chain wheel and maintains the pendant cam in proper position.

.SPINNING AND DOUBLING.

A considerable amount of interest has been shown in the Casablanca compound drafting ring frame, owing to the exceedingly



2.—Compound Drafting Spinning Machine.

(Casablanca High Draft Co. Ltd., Manchester.)

high drafts obtainable. The material is subjected to the action of two sets of drawing mechanisms, and between these is arranged a twisting device which inserts false twist into the sliver. The effect of this is to consolidate the material and prevent the spreading and loss of fibre which would otherwise occur after the first drafting.

This drafting, which is done by means of three lines of rollers similar to an ordinary system, is carried out slowly, this being conducive to good drafting. The second drafting is carried out on the well-known Casablancas high-draft system. The twisting mechanism consists of a rotating funnel through which the sliver passes. This funnel is of special construction, and can be threaded with ease. It is placed very close to the second set of drafting rollers, so as to retain control of the sliver right up to the nip of the drawing rollers. Drafts ranging from 40 to 400 may be used, and 100's cotton has been spun on this machine from 0.25 hank sliver.

Platt Brothers' No. 5 pattern ring frame carries several important improvements, one of which is the centralized lubrication system. A pump and container is placed in a convenient position at the driving end, and from this point oil is conveyed through piping to all the necessary parts of the headstock. An improved slubbing motion can now be applied to the machine for the production of slub yarns. The mechanism is operated from the front roller, occupies very little space and is adjustable to give a wide range of distances between slubs, either equal or unequal, as required.

The employment of cork as a covering for rollers is becoming increasingly popular. This, of course, is not a new development, and has been in existence a number of years, but has probably been developed more in America than it has in either Great Britain or on the Continent of Europe. More recent information has been issued with regard to another method of covering spinning rollers or any other roller coming in contact with either dry or wet yarn.

In the case of spinning rollers a rubber covering is applied to the roller, which is afterwards doped with some form of cellulose solution. It is claimed that the resultant skin or covering is resilient, and has a very long life. No varnishing of the rollers is required, and this dope is stated to be applied to doubling rollers equally well.

The use of cork instead of leather for the covering of drawing rollers has resulted in the introduction of a cork-roller grinding machine by Dronsfield Bros., Oldham. The machine is designed to provide quick and accurate operation, so that each roller when completed is rapidly removed and replaced by another, and each roller is ground to one constant diameter, once the setting has been determined.

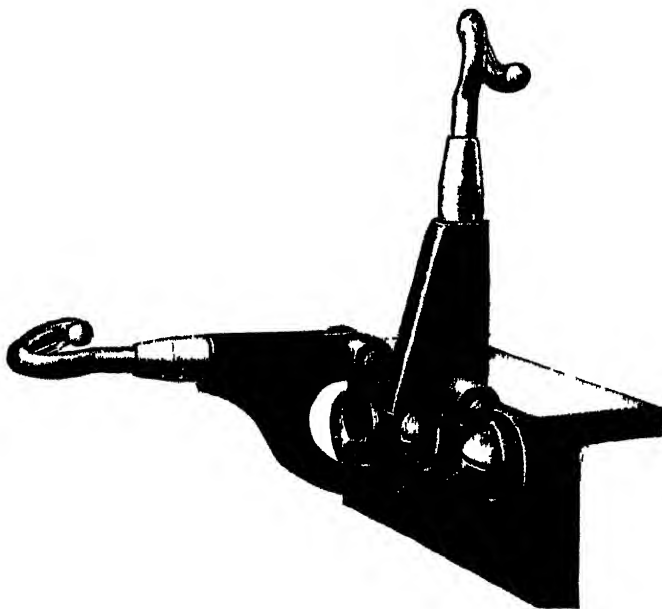
The Watson-Lister twister made by Prince-Smith & Stells, Keighley, contains the principles of up-twisting and down-twisting in one machine, and is consequently well adapted for crepe twisting and other forms of twisting where high production is required. Each row of spindles, that is, the row carrying the supply bobbins, where the up-twisting occurs, and the row carrying the delivery bobbins, where ring twisting is employed, revolves at about 10,000 r.p.m., so that twist is inserted in the yarn at the rate of 20,000 turns per minute. The machine is applicable either for the hard twisting of single yarns, or for twisting a number of ends together, in which case the required number of threads are first wound on to the supply bobbin.

An improved rayon twisting frame by Ernest Scragg & Sons, Macclesfield, for silk and rayon twisting, provides for increased output and improved quality of the yarns. Its principal use is to insert high twist into crepe and similar yarns, and twist as high as 120 to the inch can be obtained. Special attention has been paid to the bearings; the important ones are ball bearings and others are of impregnated hard wood, thus almost dispensing with the necessity for mill lubrication. The spindles are capable of speeds up to 14,000 r.p.m.

The same firm have introduced a combined doubling and spinning machine with self-lubricating rings. It is capable of doubling and twisting up to 12 ends per spindle, and spindle speeds reach 15,000 r.p.m.

YARN CLEARING.

Generally speaking the winding process is the one in which slubs are removed, but an alternative method has recently been adopted, namely, at the spinning machine. Once the roving is drafted and is in process of being twisted it is in a condition to be cleared or slubbed before it is actually wound on the cop or bobbin. Therefore, at some point between the rollers and the spindle, a slub-



3.—“Spear” Lappet for Ring Frames.

(Cook & Co. (Manchester) Ltd., Manchester.)

catcher might be placed. An obvious position which suggests itself is the thread guide of the ring frame, and Messrs. Cook & Co., of Manchester, have recently introduced a special type of lappet, known as the “Spear” lappet, which is designed for this purpose. Two teeth or points are set inside the eye of the thread guide, as

shown in the illustration. During spinning the yarn is bearing against the inner face of the eye, and at the same time is rapidly traversing across this face, due to the ballooning action of the yarn below the lappet. Further, the yarn is continuously rotating as it passes through the eye. The two points or spears are set in relation to each other and to the opposite side of the eye, so as to provide an effective means for removing slubs and other imperfections. The lappet is made smooth and narrow on the upper face, presenting a minimum of surface for the accumulation of fibre, and providing ample space between adjacent lappets for this fly to fall clear.

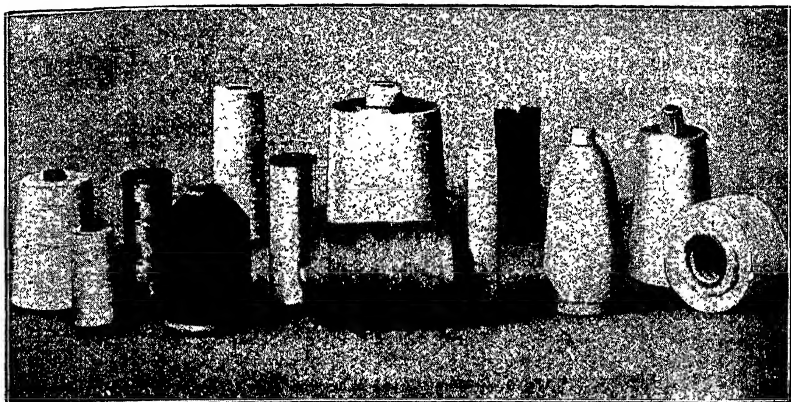
It is probable that more waste would be caused by slubbing at the spinning machine, since the rollers would continue delivering the rove, and there would be a risk of this rove getting on to adjacent ends, and causing further waste. There would be more spinners' piecings, but fewer knots in the yarns. In multiple winding there would be fewer bunch knots. An important result which has already shown itself in practice is that greater care is taken by the spinning operative in making piecings, in piecing rove at the creel, in picking clearers, and in cleaning generally, since she soon realizes that these attentions reduce the number of ends broken down by the lappet slub-catcher. Similarly any unusual increase in yarn defects which cause the lappets to break down more ends at the spinning machine is noticed at once, and steps are quickly taken to rectify the trouble, whether it be in the cotton itself or due to faults in the machines in the cardroom. From this point of view the lappet slub-catcher is very effective in bringing about a reduction in the number of imperfections in the yarn. Another advantage is that at the spinning machine a condition may arise at one spindle—for example, excessive fly on the clearer, or a badly covered top roller causing periodic delivery of undrafted roving—which in the ordinary course might continue producing defective yarn over a long period without detection. With the lappet slub-catcher the operative would quickly notice the frequent breakages, and take steps to remedy the trouble. It may be safely claimed for the "Spear" lappet, therefore, that its use will tend to bring about an improvement in the quality of the yarn, which in itself would reduce winding costs.

STAPLE FIBRE.

Staple fibre has long been known in the textile industry, but no great development or progress has taken place owing apparently to lack of interest and also to lack of knowledge of the value of this particular form of viscose rayon, and also from lack of knowledge of the best methods of dealing with the material. Comparatively recently Courtaulds Ltd., of England, have commenced to spin what they have termed "Fibro" in a mill in Lancashire. Their object is to demonstrate the methods of treating staple fibre made from viscose rayon, and to prove to the trade the advantage of utilizing this particular material and the ease with which it can be treated.

Cotton machinery is used with only minor adjustments and modifications.

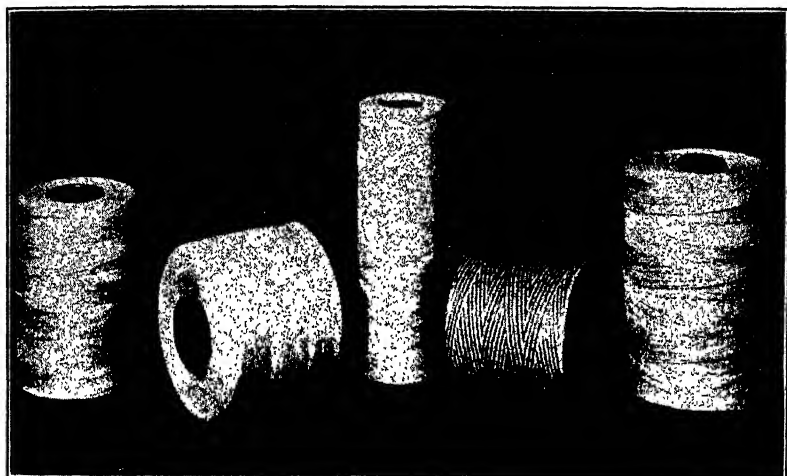
It will be appreciated that "Fibro" is supplied in a form which



PRODUCTS OF THE STYLE 50 MACHINE

Silk, rayon, cotton and all fine yarns.

Soft wound cheeses for Franklin Process Dyeing.



PRODUCTS OF THE STYLE 5-19 MACHINE

Multiple-wound cheeses for wire covering and for twisting.

UNIVERSAL WINDING COMPANY

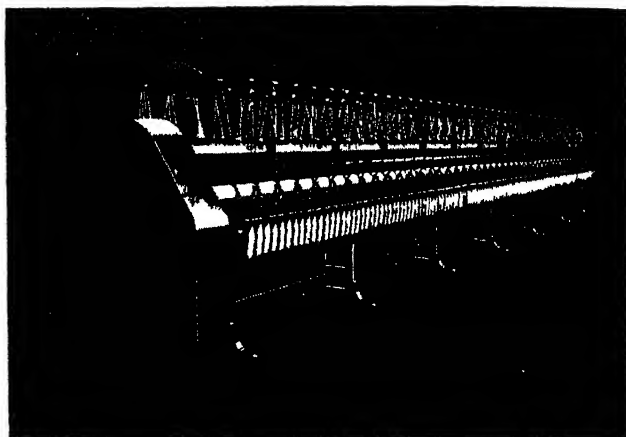
MANCHESTER

BOSTON

PARIS

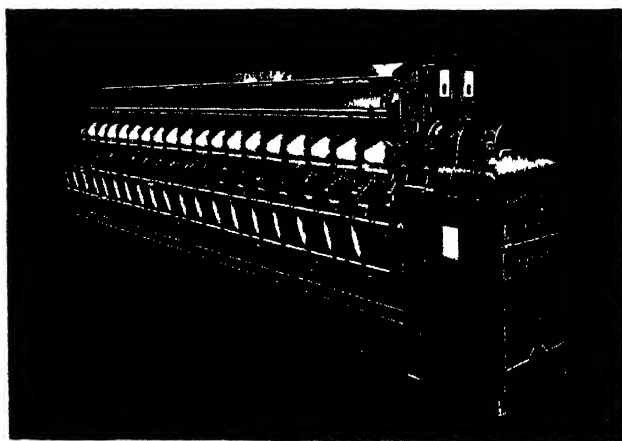
LEESONA

MACHINERY of DISTINCTION



MODEL K for CHEESES

MODEL M₂ for CONES



THOMAS HOLT
L I M I T E D
Atlas Works, Whitworth Road
R O C H D A L E

is 100 per cent staple, containing no impurities, and therefore requiring no cleaning. Therefore, the cleaning and waste-rejecting elements of the mixing and opening rooms are rendered redundant. A certain amount of opening has to be performed in order to make the material fit for presentation to the card, and, of course, a lap has to be made.

A description of what Comtaulds have done follows —

“ They broke into the mixing and opening combination at a point between the exhaust opening unit and the Buckley cylinder, feeding the material direct into the hopper feeder, to pass through the Buckley cylinder and bladed beater to form an opener lap, and from here on to a finisher scutcher. The only change from standard practice was the fixing of plain sheets over leaf bars, behind bladed beaters and also the reversal of the bars in the Buckley cylinder to prevent the ejection of staple as waste. Due to the more closely lying nature of ‘Fibro’ as compared with cotton, it was essential to relieve very considerably the weights on the rack head brake levers, on both opener and scutcher, otherwise laps would have been too hard, and the withdrawal of the slip rod difficult.

“ The only change in the carding engines was fixing of plain sheet taker-in grids in place of the usual open grids and mote knives, this also being done to prevent waste. The waste up to card sliver under these conditions works out at not more than 2 per cent.

“ On the drawing and speed frames no part of the machines has been altered, roller weighings, drafting arrangements and speeds are such as are in operation in scores of cotton mills.

“ On the speed frames, again due to the more closely lying nature of ‘Fibro,’ the rack or builder wheel is different from what would be required for the same hank in cotton, but this, as practical men know, is a simple matter. Apart from this, there is only one important alteration from standard practice, and this concerns the wooden bobbins used on the speed frames. These bobbins are fitted with impregnated paper sleeves to protect the material from oil staining.”

The ring frame needs no alteration at all and counts between 10’s and 70’s have been spun.

GASSING.

Gassing machines have been notably improved during recent years, and it would seem that very little further improvement can be effected in their construction or design, but as with all textile machinery, refinement is always going on, and an improved type of vertical burner gassing frame has recently been introduced by the firm of Joseph Stubbbs Ltd.

Ventilation, which affects the operatives’ working conditions, has led to the adoption of various forms of hoods or ducts for the extraction of the products of combustion (dust) and fumes. In some systems of ventilation, the results are by no means ideal, and do not give the maximum amount of comfort to the operatives working on the frame. On the improved machine the upward

system is adopted, which it is stated gives excellent results by means of a most efficient hood and duct fitted above the burners into which the fumes, which must be collected in preference to dust, naturally rise and are exhausted by means of a fan. The small percentage of the products of combustion which are not drawn into the ventilating hood, due to their weight, fall away and do not clog or gather on the yarn guides, thus preventing dirty bunt yarns.

A steel wire brush is fitted for cleaning purposes, which can be traversed from end to end of the hood by the rotation of a handle.

The most original part of the gassing frame is a new type of burner, which is patented and employs two jets, one above the other, inclined slightly forward and fitted in a double metal casing with an open front, the outer case protecting the operatives from excessive heat. The openings of the two jets are of such a size that they do not become choked by the impurities generated during gassing, or present in the gas, the normal pressure of the gas being sufficient to keep them perfectly clean. The burner is made from a casting and is so designed that no distortion, due to the constant heat, occurs. This has previously been a source of trouble with most types of burners.

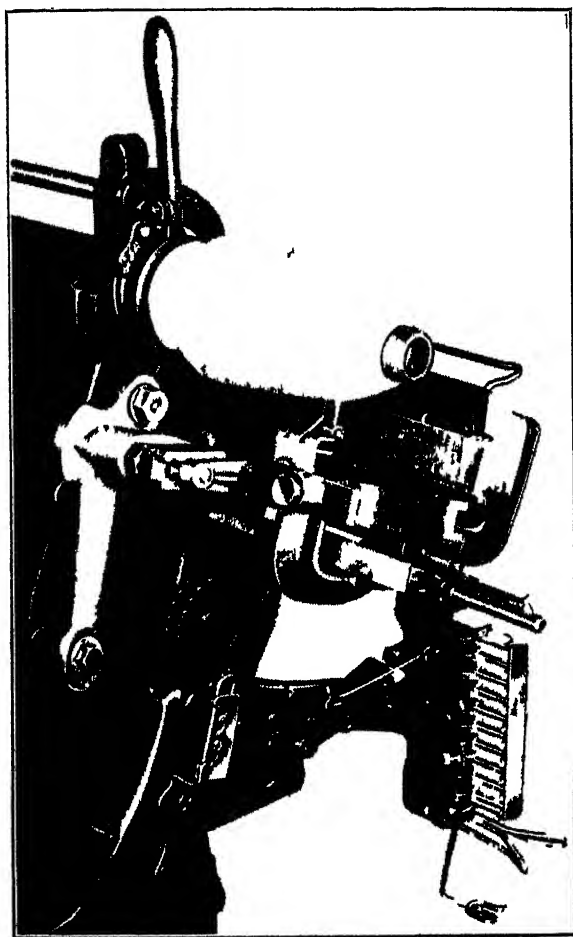
The yarn, when being gassed, travels in the same direction as the flames from the burner, therefore the whole length of the flame is utilized, and owing to its length very fine and varied adjustments obtained. This means that fine or coarse yarns can be gassed at maximum speeds, i.e., without altering the drum speeds, resulting in increased production.

There are other improvements on the machine, one in particular being a new method of guiding the yarn, the guides employed being made of porcelain. V-shaped guides at the top and bottom of the burner tubes ensure the threads being inserted in the correct position in the burners, and the yarn may be passed once or twice through the flame.

PROCESSING

Winding machinery continues to develop in the direction of higher speeds and improved quality of product. Several new applications are worthy of consideration, amongst these being the "Pineapple" cone. This is of special interest to the silk and rayon industries, as a supply to the knitter. The cone is so-called owing to its being formed with tapered ends. The advantages of the taper at the large end of the cone are that should a coil of yarn slip down off the conical face at the knitting machine, plucking is prevented, since the coil tends to slide easily up the tapered end on withdrawal. A considerable reduction in the number of "press-offs" during the knitting has resulted from the use of this shape of cone, particularly in the triple-carrier system of knitting, where delivery from the cones is intermittent, so increasing the risk of coils slipping down the cone. This system of knitting is referred to later in this paper. The taper at the small end of the cone assists the winder in placing knots in a position where they are not likely to interfere with the subsequent withdrawal of the yarn. A greater

number of "winds" can be used in winding this form of cone than is possible with the ordinary cone, resulting in an increase in the production of the winding machine. The "Pineapple" cone is produced on the No. 50 winding machine, made by the Universal Winding Company, and the mechanism can be readily applied to existing machines of this model.



4—Pineapple Cone Attachment.

(Universal Winding Co., Manchester)

A modification of the same principle has also been developed for this machine by the same firm, namely, the production of a parallel package with taper ends. The object of this form of wind is to dispense with the use of double-flanged bobbins in the silk and rayon industries, since these cheeses can be rotated for side withdrawal with little risk of dropped ends.

Another new form of package, also introduced by the Universal

Winding Company, is the "Bobbin Spool". It is built on a paper spool having a parallel body and conical base. The yarn is traversed over the parallel body, and as the diameter increases, the spool is given a gradual lateral movement along the spindle, so as to produce a package with a conical end at the open end of the spool, the other end, of course, being built on the cone shaped base. The result is a very attractive spool, which has created considerable interest in the sewing and shoe thread section of the trade. As in the case of the "Pineapple" Cone, four "winds" are used in winding, so that a considerable increase in winding speeds and productions is obtained. The same machine, i.e., the No. 50, is adaptable for receiving the attachment for producing this special form of package.

Within recent years one or two machinists have developed pirn winding machines which are spindleless. Schweiter, of Horgen, Switzerland, now make a machine of this type capable of operating at 5,000 r.p.m. of the pirn. Although normally spindleless, it is designed so that it can be readily changed over to the spindle type. The head of the pirn fits into the collar of the pirn driver, which is lined with rubber to ensure a non-slipping driving contact. The tip of the pirn fits into a roller bearing, ensuring easy running, and the removal and insertion of the pirns is carried out with a minimum loss of time. An important application consists of a device which automatically frees the pirn from its driving collar when the latter stops through end breakages. The pirn can thus be turned freely for piecing. The slow-starting mechanism is now operated by the pressing of a button instead of by manipulation of a lever.

High-speed warping of rayon has led to further improvements in rayon warpers. Benninger, of Uzwil, Switzerland, now make a horizontal warping machine in which the reel or swift is enclosed, forming a drum. This reduces the air movement about the machine (since the swift no longer acts as a fan) with beneficial results to the material, since there is not the same variation in moisture content of the different layers of yarn on the drum. Conditions are also better for the operator. An effective brake is applied which is capable of stopping the drum when rotating at a circumferential speed of 300 yards per minute, in less than half a revolution. All the inclined blades on which the first section is built are adjustable from a common setting point to any required angle. The measuring device is specially designed so as to measure accurately and to stop the machine when the exact length of warp is made. That is, instead of the indicator operating solely from the revolutions of the swift or drum, requiring percentage allowances to be calculated for the increased lengths of the outer layers of yarn, the mechanism is so designed that an adjustment of the counter can be made to correspond with the angle at which the inclined blades on the swift are set. Once this adjustment is made the counter will register the correct length of warp automatically.

Another machine of particular interest to the rayon industry is an automatic hank leasing and tying machine, made by Gegauf, of Steckborn, Switzerland. The swifts on the reeling machine are made in detachable and relatively short lengths for use on this machine, and as each section is filled, it is taken and placed in the leasing machine. Here needles come into operation, threading the

tie yarn in and out of the openings in the hank. The downward and upward movements of the needles are repeated through all the openings in the hank, then cutters and knotters come into operation to cut and knot the tie yarns. One operative attends the machine, which is designed to lease ten hanks at a time.

A warp re-winding machine, introduced by Platt's, has been particularly successful in the Indian market. Its purpose is to avoid excessive loom stoppages due to warp ends sticking together as a result of storage in a sized condition. Such beams are run through the warp re-winder, where all such faults are remedied, and where slack ends can also be rectified. The resulting beam will, of course, weave off with few stoppages, so that in effect one machine with low standing charges has been operated at low efficiency so that a large number of looms, with high standing charges, can operate at high efficiency.

An improved Johnson Rayon and Silk Sizer has just been placed on the market. The original machine of Johnson's was very effective, but the later type has been considerably improved and is certainly more efficient. Quite a considerable number of improvements have been made, the most important probably being the new variable-speed drive which has been designed and patented. It includes in one self-contained unit motor, variable speed drive, and reversing motion. It is controlled from every important operating point of the machine. The slow speed feature makes it possible to give the warp just enough "creep," so that it will not remain in the size solution or stick to the drying cans. The reverse motion permits running the warp back through the machine when desired. There is a quick-change gear box whereby the stretch is positively determined and controlled by a new compensating drive that cannot slip. The speed of the quetch is regulated to conform with that of the drying cylinders. At this point the exact stretch desired may be obtained. Cone pulleys and slip belts are entirely eliminated from the machine. Change gears are used for securing the proper tension between the last drying cylinder and the draw rolls, so that there is no need to add or tear off cloth from the draw roll to secure proper tension as heretofore.

Another very important improvement on this machine is that seamless tinned copper drying cylinders are employed. The seamless cylinders are certainly a very definite improvement over the old riveted type. The machine construction and design is certainly an advance on anything that has yet been put on the market, and the efficiency of the machine has been materially improved.

There is to be noted increased activity in the production and use of warp tying-in and twisting machines. The latest development is the introduction of the easily portable type.

A new leasing machine has been put out by the Uster Factories, Zurich. The actual leasing mechanism travels across the warp at speeds which are adjusted according to the number of threads per inch. In this mechanism there are two shuttles which are threaded with the lease cord. A needle at the front of the device, assisted by another needle underneath the warp, takes one thread slightly away from the main bulk of the warp. These needles are supplied in various sizes according to the class and count of the yarn being

leased. The shuttles work alternately up and down, so that when one shuttle is passing its lease cord over the selected thread the other shuttle is passing the second lease cord under the same thread.

One of the most remarkable features of the machine is that if by any chance the selecting needles should miss a thread, the shuttles are automatically held up and do not function. By this means the perfect continuity of the end-and-end lease throughout the width of the warp is assured. An automatic counter registers the number of ends leased, and this, in common with the shuttles, does not register if an end is missed.

WEAVING.

In order to avoid lost picks in a loom a method has been introduced whereby a uniform length of yarn is wound upon a pirn. This naturally involves certain mechanism which has been added to pirn winding machines, and it also calls for the application to looms of a weft stop motion and shuttle locating device. By the employment of these two devices, namely, the measuring device for the pirner and the locating and stopping device for the loom, it is claimed that lost picks are avoided and the work of the weaver reduced. Up to the present the method has not been largely adopted, probably due to the fact that too much depends upon the correct setting of the two devices in order to secure perfect efficiency. It will be readily understood that a bad setting of the measuring device or inefficiency during piecing up might result in a considerable amount of waste and also might prevent the exact and desired length being wound upon the spindle. The idea, however, has possibilities, but it is doubtful whether an ordinary weft feeler acting on a bunch or the pirn within the shuttle is not a better and more efficient proposition.

A very interesting development which has taken place in England during the past two years has been the introduction by a number of loom makers of looms specially designed to weave rayon or silk. At the outset in Lancashire an attempt was made to adapt the Lancashire loom, but it was quickly recognized that to secure the best results and the most perfect quality of cloth the loom should be specially designed to deal with the delicate rayon fibres. Such firms as Messrs Butterworth & Dickinson, William & Mills, Henry Livesey Ltd, and Hattersley & Sons Ltd., have all gone into the question of rayon looms very closely. These looms embody a quality of construction which is excellent, and all the firms mentioned can now supply wide ranges of such looms.

An interesting new Terry-towel loom has been introduced by Butterworth & Dickinson. A number of improvements have been applied which improve the efficiency and production of the loom. The Terry motion is controlled from any suitable jack of the dobby, but the movement and timing are derived from an adjustable cam on the bottom shaft of the loom, which operates on to one arm of a bell-crank lever resting on the cam, and the other arm of this lever is a short vertical one, which is an inch or so away from the short vertical arm of a similar but reversed right-angled lever. The dobby lifts or lowers a metal distance piece between the two vertical arms. When the metal piece is lifted, the cam motion is passed positively by the first lever to the second, the horizontal

arm of which controls the rise and fall of the terry heater by means of a link and spring

The duck-bill or bowl on the sley stop-rod then passes in the usual way either under or over the heater, and in the latter event allows the reed to swing back to as to leave the "loose picks" in the terry weave at the required adjusted distance from the fict of the cloth. The arrangement is very much superior to any arrangement of direct connection of the terry heater to the dobbv, whose lift is not ideal either in amount or in timing. In the arrangement described the control is positive and the device very simple, and the timing can be adjusted to be exactly correct.

William Dickinson & Son have introduced a Dobbv with a variable "dwell". It is possible to alter the "dwell" from one-third to one-half pick, or from 120 deg. to 180 deg. or any degree between the two. This alteration can be effected very simply. It will be appreciated that advantage can be taken of this definite "dwell" by reducing the "lift" or opening to shed. The advantages secured are that less work is thrown on to the healds and less warp and weft breakages occur because the shed is also definitely open for the shuttle passage.

A simplified warp stop motion of the type employing a movable bar has been introduced by Henry Livesey Ltd.

The greatest expense involved in the production of damask fabrics is undoubtedly embodied in the preparation of the design and the cutting of the cards. Over many years, numerous attempts have been made to reduce the amount of work involved and the time required for the production of a set of cards, which applied to the jacquard machine will produce the damask fabric. Photography has been brought in to the service of the designers, and metal sheets having a positive and negative face have been prepared and utilized in place of the ordinary punched cards. In conjunction with these metal designed sheets the "Bessbrook" self-twilling jacquard is used.

There have been many other so-called improvements introduced to the trade, but they have failed when put into actual practice to become commercial propositions. Recently Devoge & Co. have introduced what they call a multi-weave card saving damask machine. In principle it is double-lift, single cylinder, and three weaves and a float are obtainable in single cloth structures with a single shuttle. One defect previously found in the weaving of damask, especially with the "Bessbrook" machine, has been what is called the "ditch," which appears on one side of the figure. It is claimed in the "Multi-Weave" machine the binding points of adjoining weaves are on adjacent ends and picks throughout, thus improving the binding. One card serves for two picks in single shuttle fabrics, and one needle controls four warp threads, therefore it will be appreciated that one needle is doing the work of eight in terms of cards, thus effecting a saving of seven-eighths of the designing and card cutting which would normally be required for full brocade harness.

Dr. Carver introduced the "comb" method of warp thread breakage detector many years ago. The system was largely

adopted and is still utilized where gentle treatment of the yarn is an advantage. With cotton warps the dropper system is quite efficient and non-harmful. Recently Dr. Carver has invented a new method of detecting the exhaustion of weft within the shuttle, which it is claimed is unique in design and positive in action. The equipment consists of a warp-stop motion and a weft feeler working upon the same electric knock-off motion to stop the loom when a warp thread breaks, or when the feeler motion indicates that the margin of weft has been reached, in the case of semi-automatic looms; and to stop the loom when the warp thread breaks and actuate the shuttle change when the margin of weft in the shuttle has been reached, in the case of automatic looms. The weft feeler and warp-stop motions act in the same simple way to close the circuit of low voltage (4.5) through the knock-off.

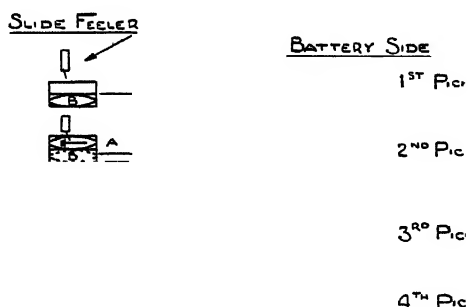
The feeler motion acts within the shuttle itself, the current being carried into the shuttle by a pair of spring-impelled balls projecting into the shuttle-box from the shuttle guide-plate about $\frac{3}{16}$ in. to engage short contact plates on the shuttle. The feeler has been developed after research into all the previous forms of feeler motions and its action takes into account the inevitable variation in the size of the pirn. It acts differentially, measuring the distance between the surface of the wood or paper of the pirn and the surface of the yarn wound upon it. In this way it can be easily set to actuate the knock-off motion when only the permissible amount of waste which, in the case of artificial silk is of a thickness on the pirn of only four thousandths of an inch, remains.

The fittings are sent out completely wired from a junction-box large enough to contain a dry-cell battery measuring 4 ins. \times 4 ins. \times $1\frac{1}{2}$ ins. and giving 4.5 volts, and fixed on the loom side at a position where flexible leads carry the current into the warp-stop motion simply suspended on the lease-rods. Dry-cell batteries, as recently so much improved, give satisfactory results over a long life, but if it is preferred, leads from a central low-pressure transformer can be brought into the junction-box or at slightly more expense a small generator can be fitted to each loom. A single cable from the box passes to a lantern at any convenient part high on the loom, which shows a red light when the warp-stop motion acts and a green light when the feeler motion acts. The knock-off is of a simplified type which can be attached either to the weft-fork, the handle, or the clutch, or to any other part of the starting gear that may be chosen. The whole equipment can be fitted in a few minutes on a loom, the parts being so small that, with one rod to carry the combs, and including a supply of combs or drop-wires for the warp, they can be carried in a small attaché-case.

Mixing of rayon weft either in weaving or in knitting is becoming increasingly employed. A motion which was introduced in the first place to be applied to woollen looms is now being developed for rayon looms. It is an American invention, the inventor being W. H. Baker, who many years ago was one of the inventors of the Baker-Kip stop motion for looms. The present invention is a bobbin-changing attachment which can be applied to existing looms, and in the past has been applied to the Crompton

& Knowles type, which it will be appreciated is a heavy loom. As stated, it is now being developed for application to rayon looms. Two boxes are placed on the feeler side, which is the left-hand side of the loom, and the two boxes are placed under the supply battery

The attached illustration will show the weft-mixing cycle of operations on an automatic loom.



5.—Weft-mixing cycle of operation on loom.

Three picks from three shuttles in rotation are provided, and in addition any one of the shuttles can be automatically replenished as desired. By its method of weaving at least one cell or shuttle box at one side of the sley is always emptied when the sley beats up. The necessary changing of the bobbin just prior to its complete exhaustion is accomplished by receiving that particular shuttle in one of the cells or boxes of one shifting shuttle box, then forcing a fresh bobbin into the shuttle by the usual methods of mechanism and expelling the empty bobbin through the adjacent cell or cells in the shuttle box while the latter is or are emptying.

By the employment of a cam on the lower shaft the loom action of the mechanism which operates the transfer hammer can be delayed, after the feeler motion has indicated that a new bobbin is required, until such time as the shuttle is in the proper and appropriate box.

Ruti introduced for rayon and silk weaving a flat shuttle within which is fitted a flat pirn. The design and construction of the pirn is excellent, and it is claimed that advantageous results are secured during weaving. The amount of weft yarn carried in the shuttle is doubled. The shed is reduced by one-fifth. Winding the pirns presents no difficulty. Should the shuttle capacity remain unaltered the shed opening can be reduced by 20 to 25 per cent., and therefore the number of picks can be increased considerably. It is claimed that there is a distinct reduction in the number of broken ends.

KNITTING.

In knitting machinery it will be appreciated that full-fashioned hose machines are becoming increasingly used. As a result we find that a considerable number of improvements have been introduced for this particular type of machine. For example, single-unit

machines are now constructed in which the complete hose—leg and foot—are made on one machine. It will be appreciated that by this means a finishing machine becomes unnecessary. The machines have been speeded up, and whereas a year or two ago such machines were only running at a speed of 70 courses per minute, to day the speed has been increased to 80-85 courses per minute.

It has also to be noted that a single head full-fashioned hose machine has now been put on the market. Whereas previously machines of 18, 20 or 24 knitting heads were employed, such heads being on one frame and under one control, the single head is a unit in itself and is not dependent on the other heads.

This single-head machine produces the genuine full-fashioned hose, using sinkers, dividers, and spring needles just as the multi-head machine, but giving a much increased production over the multi head machine. The simplicity with which a machine can be operated enables operatives to be trained quickly, and although in the past it has been necessary to employ highly skilled male operatives to operate the multi head machines, it is found that on the new single machines female operatives are being taught to operate them successfully in a very short time.

An interesting feature of the new machine is that the very finest gauges can be operated successfully—in fact, the ultra-fine gauge hose can now be manufactured as easily as the old, coarse gauges.

The "Carrier" system of feeding to the full-fashioned hose machine is another very important development, although it has not being very largely adopted either in Great Britain or on the Continent of Europe up to date. The idea comes from America and consists in the employment of three threads to feed or supply a panel in full-fashioned knitting, but we understand that one English firm has successfully adopted this method, the object of which is exactly the same as that which obtains in welf mixing in a loom, namely, the obviation of rings or stripes. The development of the "Carrier" or three-thread system has resulted in the introduction of the "Pineapple" Cone by the Universal Winding Company, to which reference has already been made.

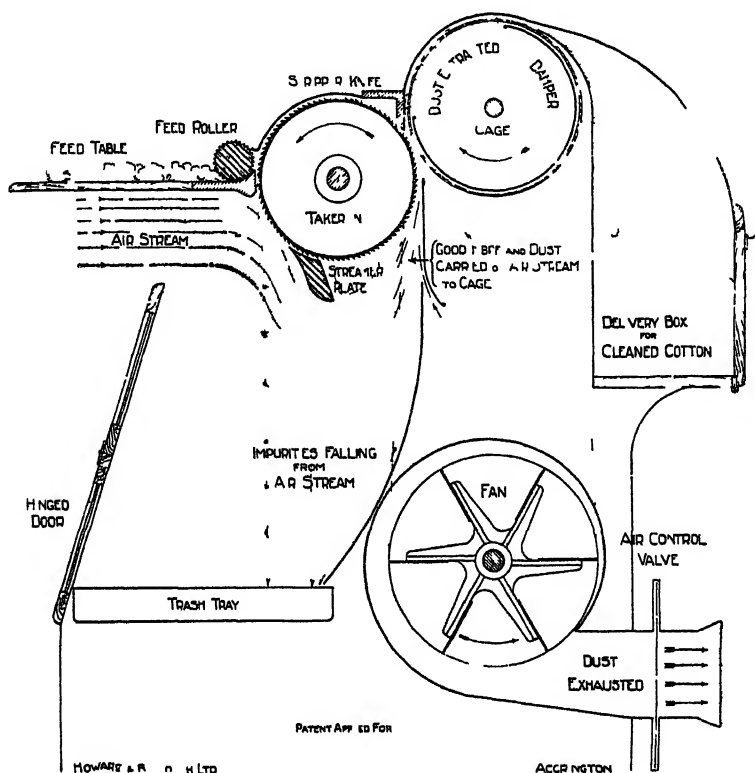
TESTING MACHINERY

Several new testing machines have been introduced to the textile industry, one of the most important being the Shirley analyser, a machine patented by the British Cotton Industry Research Association, and made by Howard & Bullough, Accrington. Its function is that of testing samples of cotton for the quantity of trash they contain, and it may be used for the following purposes:

- (1) To give the purchaser or seller of raw cotton or waste definite figures concerning its proportions of clean cotton and trash.
- (2) To give the spinner an accurate idea of the capabilities of his existing machinery on any particular class or mark of cotton.
- (3) To enable him to determine the state of cleanliness of his product at any stage in the opening and cleaning processes up to and including carding.

- 4 To enable him to ascertain the quantity of fibre suitable to be spun in the waste from any particular machine
- (5) To enable him to determine the loss of good fibre in the sequence of opening and cleaning processes

As a result of the information obtained from the test the spinner will be guided in the adjustment of his machinery. A streamline flow of air is used for effecting the separation of the trash from the lint, and the principle of operation is such that the



6 The Shirley Analyser

(Howard & Bullough Ltd Accrington)

trash is removed completely without loss of fibre. The machine comprises a feed plate and feed roller with taker-in, stripping knife, and a high-speed suction cage. The air current is controlled and enters from three points.

Owing to its high speed and large number of teeth, the taker-in cylinder opens up the cotton almost to the single hair state. Due to the high centrifugal force, cotton hairs and trash particles tend to travel tangentially outwards and enter the air stream. This tendency is intensified by the action of the streamer plate, which is specially "streamlined" so as to allow the air currents set up by the motion

of the taker-in cylinder to join the general air stream without forming eddies.

The separation of the cotton and the trash takes place as the two travel with the air stream through the settling chamber, the heavy trash particles falling almost straight through the air stream to the trash tray. On the other hand, as the single cotton hairs are entirely controlled by the air stream, they are carried along with it, and out of the chamber. The less heavy trash particles tend to fall, but are carried some way by the stream, and if the air currents are properly adjusted they ultimately fall into the trash tray, but at a point further forward than the heavier particles.

The time taken for the test, which is usually made on 100 grams of cotton, is about 15 minutes. It will be realized how much time this saves compared with the usual mill tests, where about 100 lbs. of cotton are put through, and in addition there is, of course, no interruption of the normal mill production.

A roving tester has been put on the market by Rudolf Knoté, of Leipzig, which determines the amount of twist to be put into a roving, and also inspects the regularity of the roving. The roving bobbin is mounted in a stand, and the rove unwound and passed between a pair of rollers. It is next taken under a pulley mounted on a pendulum arrangement, which is weighted to suit the hank roving. Next the rove passes between another pair of rollers. The weighted pulley moves up and down according to the variation in stretch of the rove, and this movement is recorded on a chart. Excessive stretch indicates insufficient twist in the roving.

The "Distanceur Litty" is a device also made by Rudolf Knoté for testing the correctness of drawing roller settings for any particular cotton. It consists of several lines of drawing rollers whose setting can be altered while the machine is working and with the material passing through. The delivered material may either be twisted and wound by a ring spindle, or delivered as a ribbon of fibres along a black channel. The rollers are adjusted according to the evenness of appearance of this ribbon or to the evenness and freedom from "crackers" of the twisted yarn, and this setting can then be adopted in the actual machines intended to work the material under test.

After the foregoing paper had been prepared for this Congress and sent to press, information was received with regard to a new device known as the "Static" Anti-Stripper for cards, which is of Spanish origin. You will note the significant term "Anti-stripper." By the use of the device it is stated that the card can function, with the necessity of stripping, for a period varying from 24 to 100 hours, according to the state of the card, with the same hourly production and quality of textile fibres, permitting a normal average of 48 hours for American and Indian cotton and silk or rayon fibres to be estimated.

As stated above, the "Static" device is an anti-stripping arrangement. Scientifically, the "Static" apparatus has its

principle in the phenomenon of electrostatic induction, which is produced by means of friction of the dielectric material which clothes the "Static" device with the fibres in course of carding and the air suction which the card clothing creates in its revolving action.

The device is placed a short distance from the wire of the card clothing, and it is stated that the electrostatic action compels the fibres to remain on the surface, with the result that the maximum carding action of the fibrous mass is obtained, at the same time preventing accumulation between the points of the card wire.

The most important claim, of course, relates to the reduction in the number of strippings. It is stated that from one to two strippings only in 48 hours are required, as compared with 16 strippings in most cards in the same period, and that the increasing production represented by stoppages for strippings is from 3 to 4 per cent. There is naturally a reduction in labour and a saving in power.

We have had brought to our notice a device which is probably more applicable to wool than to other fibres, although it is stated in an article which has been sent through that this "Pendultex" machine is for measuring the swelling capacity of textiles—this means, of course, textile fibres. It will be appreciated that the elasticity of fibres has been tested by taking a handful of such fibres, compressing them, and then opening the hand. The "Pendultex" apparatus practically carries out this process mechanically and scientifically.

As it will be appreciated from the name, the "Pendultex," a pendulum is employed and a calibrated scale is used to measure the elasticity. The fibre is put into a small chamber and the pendulum is swung. The swinging of the pendulum brings about compression of the fibre until a certain point is reached when the pressure on the fibre is removed, and an indicating device on the calibrated scale shows the figure of elasticity.

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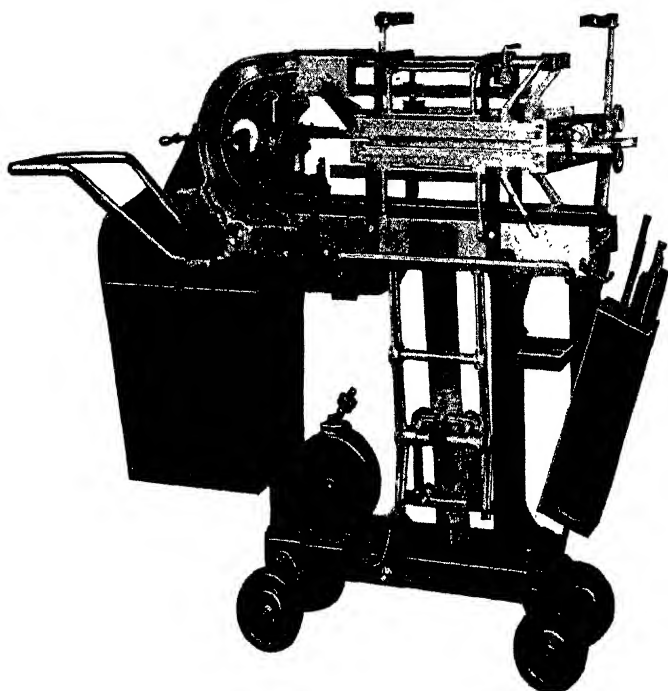
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Some Comparative Tests on Varieties of Cotton: Brazilian—Argentine—American.

*Paper prepared by CAMILLO LEVI, Director of the Royal Research
Department for the Paper and Vegetable Textile Fibre Industries,
Milan.*

THE difficulties of commercial interchange between the various nations and the constant precautions which all are obliged to take in order to safeguard to a certain degree their own economic positions, have emphasized the need of having recourse as far as possible to the use of home-grown raw materials and of ascertaining, in regard to commercial interchanges, which are the countries that can exert a favourable influence upon the balance of trade.

It is for that reason that in matters concerning the cotton industry, apart from the use of certain types of cotton which have occupied a predominant place among our imports, attention has been turned for some years to other classes of cotton as a possible, even partial, substitute for the existing ones. The Royal Research Department (R. Stazione Sperimentale) for the Paper and Textile Fibre Industries, of which I have the honour of being the director, has not failed to study this problem and has already initiated systematic researches with a view to examining the technological properties of a number of types of cotton which may be of interest to our market, and comparing them with those types of cotton already well known to our manufacturers.

In the present report I intend to refer to a preliminary set of tests carried out for this purpose in our own laboratories on various types of Brazilian and Argentine cotton; the results of further tests will be published as and when they are complete.

The samples which have so far been studied and which have been supplied by firms of proved trustworthiness, comprise: three types of Brazilian cotton, two of them are of no particular specification and are referred to in the present report as Brazilian I and Brazilian II; and the third named Brazilian Ceará. There are two types of Argentine cotton, one marked Argentine I and the other Bello, and there is one type of American cotton, for comparison purposes, viz., American Middling good colour 1 in.

CHEMICAL CHARACTERISTICS.

Of the three samples: Brazilian Ceará, Argentine Bello and American, certain chemical characteristics were determined.

As will be seen from Table I,* the resultant values vary considerably for the three samples; they are closer in the case of the Argentine Bello and the American, mainly as regards the percentage of wax content. The percentage of non-cellulose substances is least in the American cotton, being 1.27 per cent. It amounts to 1.45 per cent. in the case of the Argentine Bello, and to 1.92 per cent. in the case of the Brazilian Ceará, a fact which has a certain importance from the point of view of raw material capable of being utilized and also from the point of view of subsequent spinning operations.

The percentage of nitrates, expressed in terms of the percentage of nitrogen, is determined by the Kjeldahl process, and that again is highest in the case of the Brazilian Ceará, being 0.37 per cent. as against 0.27 for the Argentine Bello and 0.24 per cent. for the American.

LENGTH OF STAPLE.

Tests were carried out on a Baer apparatus and Figs. 1-6 represent graphs obtained by direct application of each type of fibre on a background of black velvet. More significant staple graphs are those corresponding to Graph I, which have as their basis *the weight* of groups of fibres taken at intervals of 5 mm., this being the distances between the combs of the apparatus. It seems to us that weight values of this kind are of more importance than those based on the number of fibres contained in each group.

For each type of cotton two tests were made, and the data thus obtained were entered on Table II, expressed in percentages; the corresponding staple graphs are shown in Graph I.

AVERAGE LENGTHS.

These were calculated from the staple graphs by converting the irregular area represented by O A B C D E F G (Graph VII) into the equivalent rectangular area O H I G, having the common base O G. The average lengths are therefore shown by the height O H.

EFFECTIVE LENGTHS.

The effective lengths were calculated according to the Shirley Institute method, always on the basis of the "weight" graphs. The same applies to the so-called *percentage of short staple and variation of staple length*, the values of which are calculated consequently upon the total weight of the sample tested. The following is the mode of calculation which was made from the diagram (Graph VIII). O A, representing the maximum length of staple of the fibre under examination, is bisected at A', and from A' the horizontal line A' B' is drawn, and B' B at right angles to A' B'. O C is marked, being $\frac{1}{2}$ O B, and the line C C' is then drawn at right angles, and on it point C'' is marked so that C C'' is equal to $\frac{1}{2}$ C C'. The horizontal line drawn from C'' meets the bisector of the diagram at D': D is the foot of the perpendicular drawn from D' at right angles to O G. Points E and F are now marked, so that O E = D F = $\frac{1}{4}$ O D.

In this manner we have :—

$$\begin{aligned}\text{Effective length} &= E E' \\ &= E E' - F F' \\ \text{Percentage variation} &= \frac{E E'}{E E' - F F'}\end{aligned}$$

$$\text{Percentage short staple} = D G$$

Values obtained by this method agree fairly well with those corresponding to the number of fibres in each individual section of the diagrams, as proved by the tests made by indirect application of this number.

As to the values of *most frequent length*, these cannot be considered to coincide exactly according to the two methods of test ; here again the weight percentages taken from the graphs are used for the purpose of calculating the values of most frequent lengths.

The values thus obtained are given in Table III.

The variation between the average lengths of staple for the various types of cotton are not excessive, although on the other hand they are not negligible ; those encountered in the various types of Brazilian cotton are greater, seeing that they amount to 19 to 21 mm. As will be seen from the diagrams and as shown in Table I, there is a greater tendency towards irregularity among the Brazilian types of cotton, particularly in the Ceará type, although in this quality staples were found of the length of 45 mm. It is true that this type has an effective length value equal to 29 mm., but it must not be forgotten that the percentage of short fibres amounts to 25.5 per cent., which is rather high in comparison with the other two Brazilian samples, Brazilian I and Brazilian II (17.5 per cent. and 15.5 per cent. respectively) and compares particularly badly with Argentine Bello (9.5 per cent.) and with the American cotton (9.5 per cent.).

The percentage of variation in length is more or less constant in the case of the Brazilian types and the Argentine types, but here also the superiority of the American is very considerable, the figures being 19 per cent. for the American, whereas the figures for the other types vary from 24 per cent. to 27.5 per cent.

The most frequent staple length is from 20 to 25 mm. according to the deductions made from the "weight" graphs. The percentage of weight coming within these figures is less than 40 (at times it is less than 30) for the Brazilian and Argentine cottons, but amounts up to 52 for the American cotton, which factor assists materially towards the general regularity of this type of cotton. The diagram emphasizes this characteristic, and if we glance at the others we see that the one which approaches most closely to the American is the diagram for the Argentine Bello in spite of the fact that although the percentage of short fibres (9.5 per cent.) is the same, there is not a negligible difference in the remaining percentages.

STRUCTURAL AND DYNAMOMETRICAL CHARACTERISTICS.

A preliminary set of tests was made with Brazilian I, Brazilian Ceará, Argentine I, Argentine Bello and American Middling Good Colour, limited in the first place to the examination of the number of

convolutions, tests for strength and for tests of stretch. The tests were made on about one hundred fibres of each type, cut to 10 mm.

More complete deductions can be made after other structural characteristics have been studied, based on a larger number of fibres. However, from the tests which were made, the following comparisons are available :

Table IV shows the percentage of convolutions per 10 mm. and gives the mean number of convolutions in that given length. The figures for the average number of convolutions work out at between 33 and 38, and seem to us, at first sight, to have no particular importance.

From the point of view of regularity of twist, this can only be taken into account when observations are being made in the later stages of spinning and in the finished products. It may be remarked, however, that in the case of Brazilian I, the minimum twist (less than 10) and the maximum twist (over 60) have very low percentages : 8 per cent. in all. The remaining 92 per cent. has a twist varying from 10 to 60, of which 39 per cent. comes within the limits of 30 to 40 convolutions. Within these same limits the Brazilian Ceará can only claim 30 per cent. ; its maximum twist is 60 to 70 (always on the basis of 10 mm.), but 91 per cent. of the whole is taken up between 10 and 50 convolutions.

In the Argentine I the maximum percentage is found in the column 20 to 30, whilst 89 per cent. is represented by the limits of from 10 to 50 turns per 10 mm. In the case of the Bello, the maximum is found within the limits of 30 and 40 turns for the same unit of length, but there is not so great a difference between the values for the other limits. In this type of cotton there were a number of fibres with very little twist. American cotton gives 29.5 per cent. for the limits between 30 and 40 turns, and there was a maximum twist of over 100 turns represented by 1.5 per cent.

Table IV records graphs relating to the number of convolutions (on a length of 10 mm.) according to the different sections of the length of the fibre. No particular facts of importance can emerge from the study of such a diagram, as the results vary considerably. See also Table VIII.

For the purpose of studying the dynamometric characteristics, tests were carried out with a Schopper apparatus, on the basis of a 10 mm. length of fibre, the fibres being the same as those used for testing the number of convolutions. Constant speed of bottom plate of clamp : 60 mm./1 ft. Table V gives the values obtained : mean, maximum and minimum, resulting from the examination of about one hundred fibres of each type, and it should be noted that the tests were carried out in a suitable physico-mechanical atmosphere, temperature and humidity being kept constant at 19° C. and 65 per cent. respectively by means of suitable apparatus.

Highest amongst those values giving mean resistance was the American with 5.72 gr., whilst minimum was the Brazilian I with 4.85 gr. A study of the percentages recorded for each resistance is not without importance. Brazilian I has its greatest percentages comprised between 2 gr. and 7 gr., with a peak of 21 per cent. between the limits of 4 to 5 gr. and with 1.5 per cent. between the limits of

9 to 10 gr. Ceará provides 3.5 per cent. with resistance values of over 10 gr., but its other values are spread over the remaining limits of resistance, its peak being 20 per cent. between the limits of 3 to 4 gr. The Argentine I, also, has its percentages spread over the various limits, although in this case also 10 gr. was exceeded by a number of fibres (4 per cent.); the maximum percentage was 16.5 per cent. encountered within the limits of 2 to 3 gr. and between 7 to 8 gr. Maximum percentage falls still lower in the case of Bello, amounting only to 13.5 per cent. In this case every resistance value was well represented.

In the case of the American cotton, on the other hand, between the resistances of 4 and 8 gr. there was taken up 64.5 per cent.; greater uniformity was found within the limits of 4 to 5 gr. (20 per cent.) and between 5 to 6 gr. (20 per cent.). Noticeable also was the 15 per cent. encountered within the limits of 7 to 8 gr.

In Table II and Table VIII there are collected also the mean resistances at various points in the length of the fibre. The graphs teach us in the first place (as a result of this limited number of preliminary tests) that the mean resistance increases with the length of the fibre, not overlooking the fact, however, that the tests have all been carried out on samples of fibre 10 mm. in length, comprising mainly the central portion of the fibre. From the diagrams we find that whereas in the case of Brazilian I, we pass from a mean resistance of 2.5 gr. (10 to 15 mm.) up to 7 gr. (30 to 35 mm.), and in the case of Ceará from 3.3 gr. (15 to 20 mm.) to 5.6 gr. (40 to 45 mm.). In the case of the two samples of Argentine cotton and in the case of the American cotton the variations between maximum and minimum values were not so great: there is a greater uniformity of resistance in the fibres of different length.

In substance, if we examine the mean values of resistance recorded on the samples under test, we pass almost gradually from the minimum values of Brazilian I to the maximum values of the American, as shown in Table V. The same table shows that the question of *stretch* is quite the contrary. The greatest values, according to these tests, were encountered in the Brazilian I type, being 2.5 mm. (1.5 per cent.). From the point of view of elasticity, this type of cotton presented great uniformity, for whereas the highest percentages (see Table VII) correspond to elongations of 1.2 and 1.4 mm.—viz., 18.5 per cent. and 15.5 per cent. respectively, the remaining percentages are distributed between 0.4 mm. and 2.5 mm., but with very low percentages for each individual unit of elasticity. The Ceará type gave stretching properties varying from 0.4 mm. to 2.1 mm., with percentages over 10 per cent. in various units (0.9, 1.0 and 1.2 mm.) and good percentages in the case of the other units. The cotton which showed the smallest variation of elasticity was the Argentine in both its types. Type I showed an average stretch of 0.91 mm. and the Bello an average of 1.0 mm., the former varying from 0.3 to 1.8 mm. and the latter from 0.2 to 1.6 mm. The elasticity of this cotton was, therefore, low in comparison with the Brazilian cotton, and also in comparison with the American cotton, which gave an elongation varying from 0.5 minimum and 2.0 maximum, with an average stretch of 1.32 mm., and which was only exceeded in the case of the Brazilian I.

The above data, which were the results of a preliminary limited number of tests carried out on a few samples of Brazilian and Argentine cotton, cannot, of course, allow complete conclusions to be made.

Tests which will be carried out on larger quantities of further samples of cotton from the same centres will be better able to contribute to the deduction of other and more reliable results.

TABLE I
PRINCIPAL CHEMICAL CHARACTERISTICS

	Nitrates · percentage of nitrogen	Fatty-wax substance soluble in ethylic ether, per cent	Mineral substances (ash) per cent	
Brazilian Ceará ..	0.39 } 0.36 } = 0.37	0.77 } 0.73 } = 0.75	1.91 } 1.93 } = 1.92	Percentages determined under condi- tions of absolute dryness
Argentine Bello ..	0.25 } 0.29 } = 0.27	0.39 } 0.40 } = 0.395	1.41 } 1.49 } = 1.45	
American middling good colour	0.21 } 0.27 } = 0.24	0.37 } 0.41 } = 0.39	1.25 } 1.29 } = 1.27	Mean of two tests

TABLE II
PERCENTAGE OF THE WEIGHT OF FIBRE IN THE VARIOUS SECTIONS
OF THE STAPLE GRAPHS

Type	40-45 mm	35-40 mm	30-35 mm	25-30 mm	20-25 mm	15-20 mm.	10-15 mm.	-10 mm.
Brazilian I ..	—	—	30-38 4	24.5	34	18	6.5	13
" II ..	—	—	30-38 4.5	19	31	27	11.5	7
" Ceará ..	1.5	4	9.5	15.5	28.5	19	13	9
Argentine I ..	—	—	30-38 4	15.5	36.5	24.5	12	7.5
" Bello ..	—	—	3	21.5	37.5	25.5	8	4.5
American middling good colour ..	—	—	0.5	10.5	52	23	8	6

TABLE III
STAPLE GRAPHS

Type	Mean length	Effective length	Short fibres in terms of percentage of weight	Variation in terms of percentage of weight	Most frequent length of fibre		
Brazilian I ..	19	26	17.5	24.5	mm. 20-25	% 34	These figures are deduced from the staple graphs worked on the basis of weight.
" II ..	20	25	15.5	27.5	20-25	31	
" Ceará ..	21	29	25.5	27.5	20-25	28	
Argentine I ..	20	24	14.5	24.5	20-25	36	
" Bello ..	21	25	9.5	24	20-25	37	
American middling good colour ..	20	24	9.5	19	20-25	52	Baer's apparatus.

TABLE IV
PERCENTAGE OF CONVOLUTIONS (Per 10 mm.)

Type	-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-	Average number of convolution
Brazilian I ..	1.5	9	17.5	39	15	12.5	2.5	2.5	1.5	—	—	33
„ Ceará	1.5	15	21	30	22	6	1.5	—	—	—	—	33
Argentine I ..	1	10.5	32.5	17.5	23.5	3.5	4.5	—	1	—	—	33
„ Bello	9	9	11.5	26.5	22	9	6.5	3.5	—	—	—	37
American middling good colour ..	5	10	23	20.5	22	6.5	2.5	—	—	—	1.5	34

TABLE V
RESISTANCE AND ELASTICITY (Per 10 mm.)

Type	Resistance in gr.		Stretch in mm.	
	Maximum	Average	Maximum	Average
Brazilian I ..	9.5	—	2.5	—
„ Ceará	0.8	1.85	0.4	1.35
„	10	—	2.1	—
„	0.9	5.2	0.4	1.1
Argentine I ..	11	—	1.8	—
„	1.3	5.48	0.3	0.91
„ Bello	10	—	1.6	—
„	0.7	5.4	0.2	1
American middling good colour ..	9.9	—	2	—
„	1.3	5.72	0.5	1.32

TABLE VI
RESISTANCE—Values obtained stated in percentages
(Per 10 mm.)

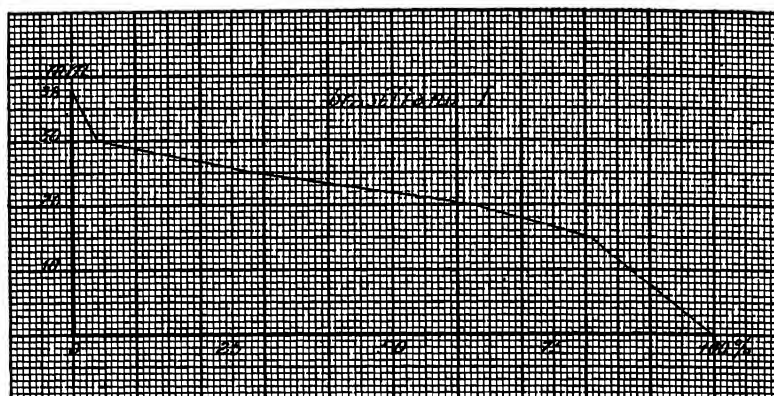
Type	0-1 gr.	1-2 gr.	2-3 gr.	3-4 gr.	4-5 gr.	5-6 gr.	6-7 gr.	7-8 gr.	8-9 gr.	9-10 gr.	10- gr.
Brazilian I ..	2.5	2.5	18	14.5	21	11.5	15.5	6.5	6.5	1.5	—100%
„ Ceará	1	7	9.5	20	17	9.5	12	8.5	6	0	3.5—100%
Argentine I ..	—	7	16.5	7	14	14	11	16.5	3	7	4—100%
„ Bello	3.5	8	11.5	9	7	11.5	13.5	13.5	10	7	5.5—100%
American middling good cotton ..	—	4	8.5	8	20	20	9.5	15.0	9.5	5.5	—100%

TABLE VII
ELASTICITY—Values obtained stated in percentages
(Per 10 mm)

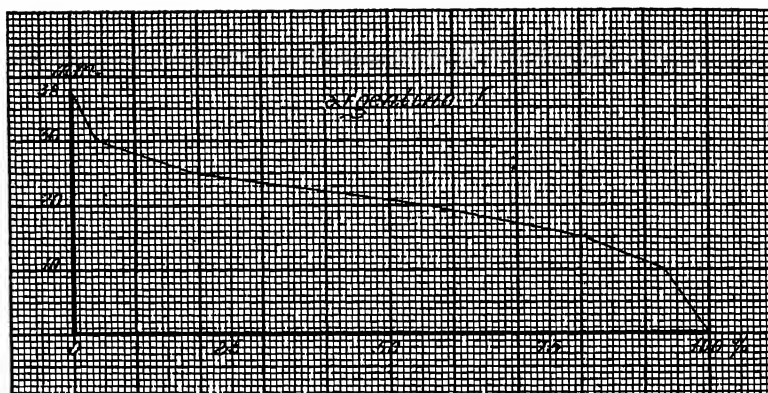
Type	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1
Brazilian I ..	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
" Ceará	..	—	1.5	2.5	2.5	4	2.5	2.5	7.0	1.5	18.5	8.0	15.5	5.0	5	5	5	5	5	4
Argentine I	—	—	3.5	—	1	3.5	7.5	10.5	14.5	7.5	20.5	3.5	4.5	8.5	3.5	1	3.5	1	3.5
" Bello	..	1	1	6	1	9.5	7	8	20	10.5	21	5.0	4.5	1	3.5	—	3.5	—	—	—
American middling good colour	—	—	—	1.5	—	3	7	4	10.5	5.5	12	8	15	5.5	10.5	7	7	1.5	2

TABLE VIII
MEAN VALUES FOR CONVOLUTIONS (1) RESISTANCE (2)
TO VARIOUS LENGTH OF FIBRE.
(Values are per 10 mm)

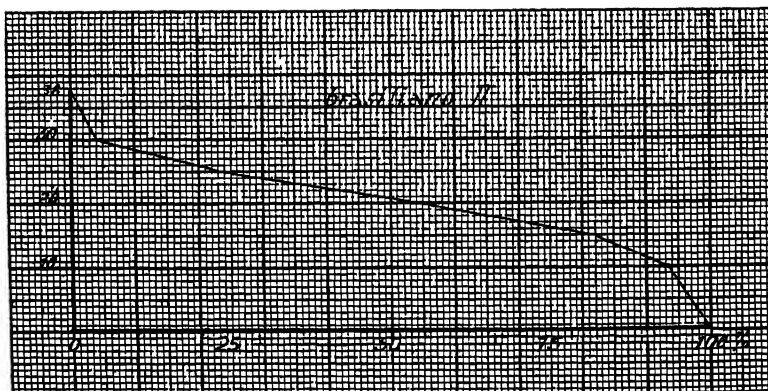
Type	10-15	15-20	20-25	25-30	30-35	35-40	40-45
Brazilian I ..	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
" Ceará	23 2.5 0.9	42 4.14 1.46	35 4.75 1.4	42 5.22 1.42	42 7 1.4	—	—
Argentine I ..	..	38 3.3 1.1	33 4.6 1.2	36 5.6 1.2	32 5.2 1.07	27 6.2 1.01	32 5.6 0.9
" Bello	..	—	35 5.3 1	37 5.5 0.92	38 4.92 0.82	21 6.6 0.9	—
American middling good colour ..	..	—	34 5.5 1	32 5.7 1	46 5.6 0.95	35 6.6 1.1	42 7.4 1.1
..	26 5.4 1.45	34 4.35 1.93	36 5.65 1.15	32 5.95 1.34	30 5.6 1.5	—	—



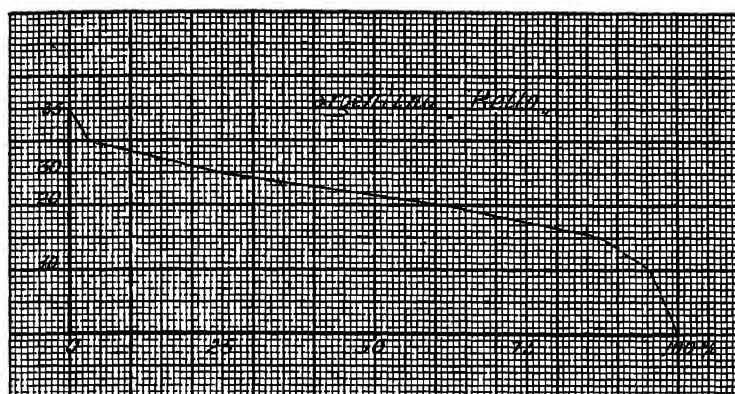
Graph I



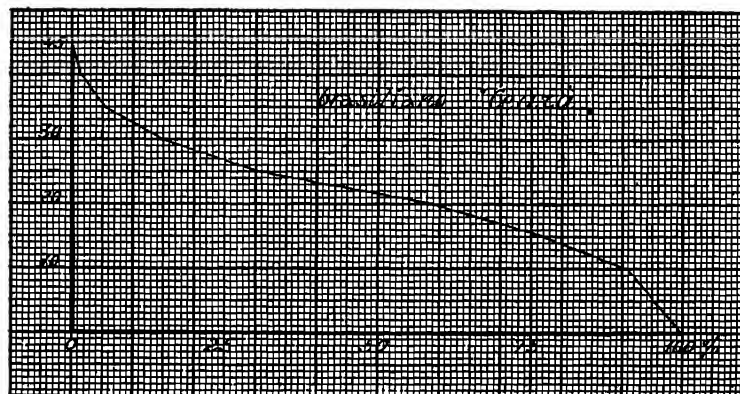
Graph II



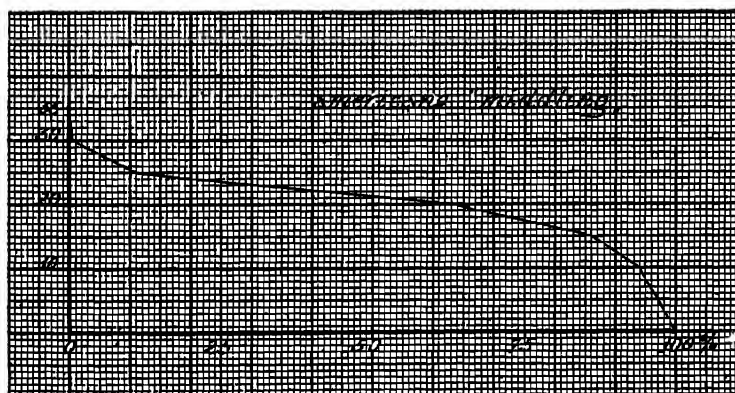
Graph III.



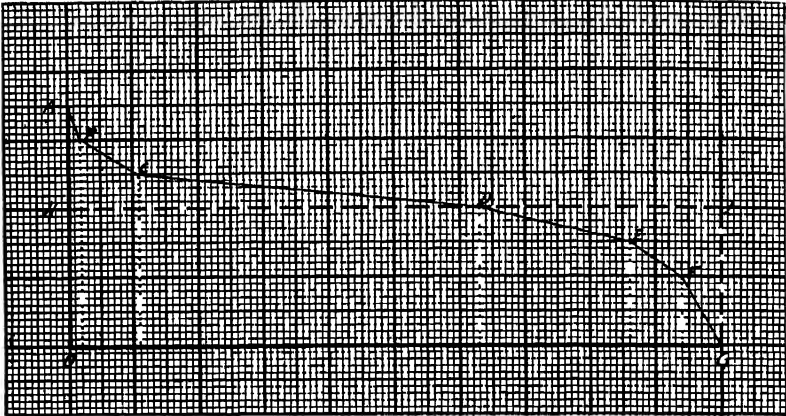
Graph IV



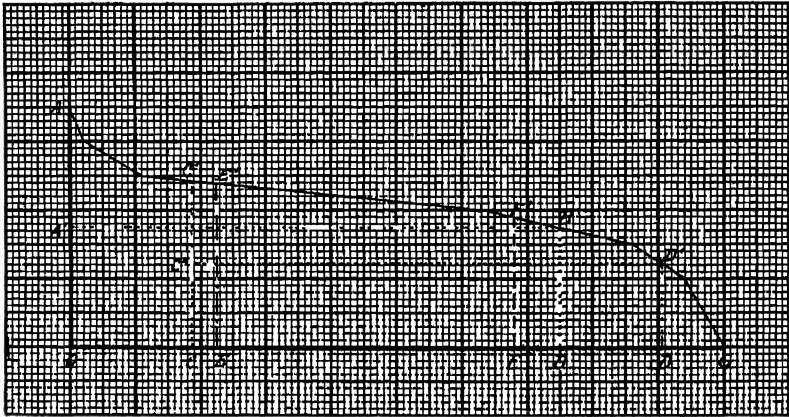
Graph V.



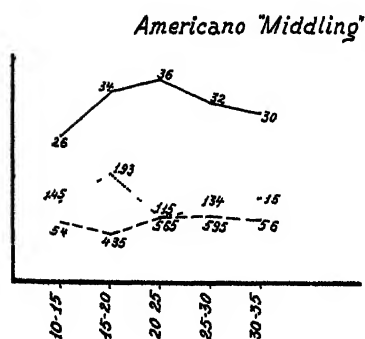
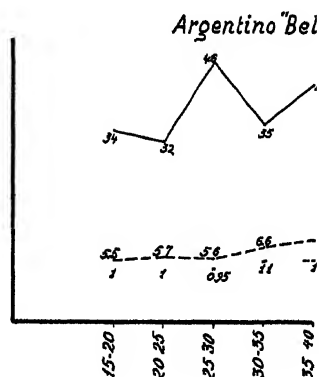
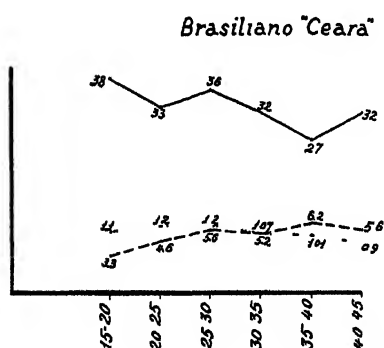
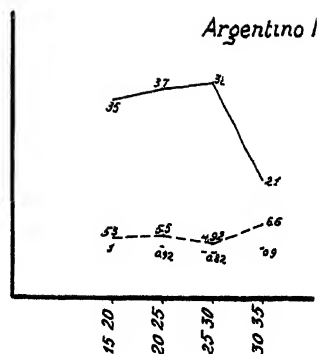
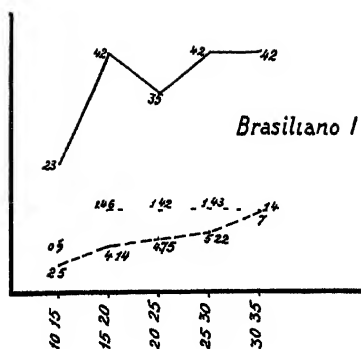
Graph VI



Graph VII



Graph VIII



— Convolutions
 - - - Resistance in gr.
 · Stretch in mm.

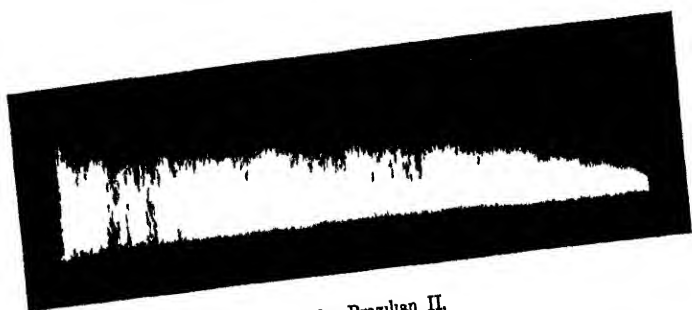
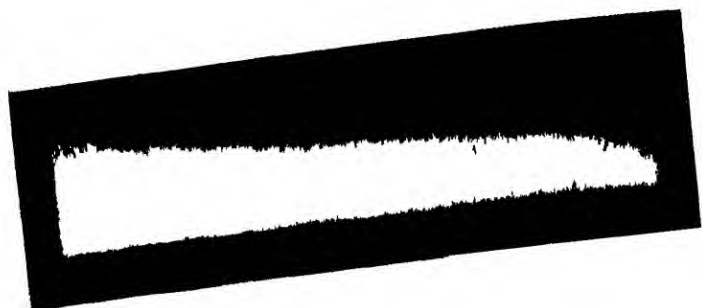


Fig. 2.—Brazilian II.



Fig. 3.—Brazilian Ceará.



Fig. 4.—Argentine I.

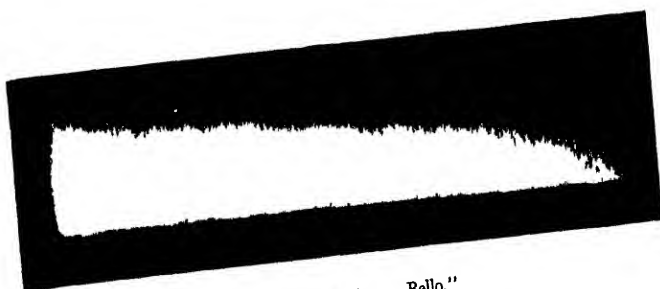


Fig. 5.—Argentine Bello."

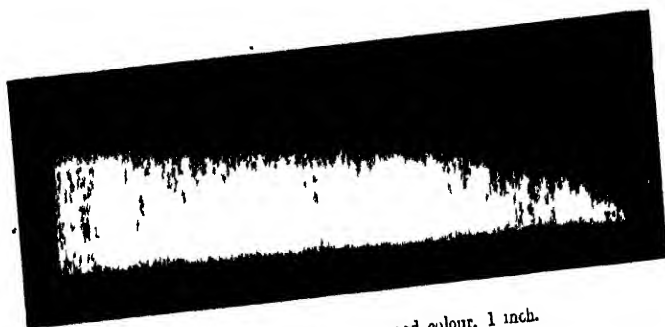
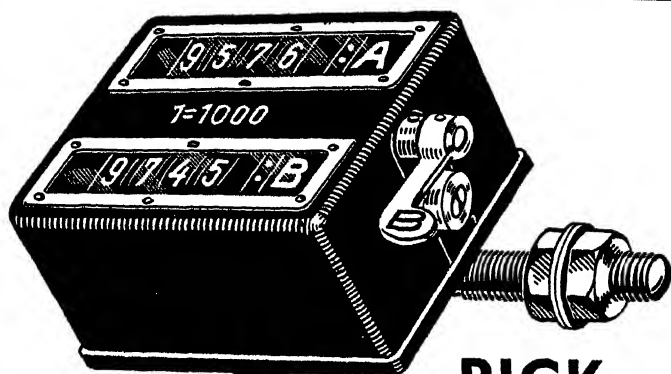


Fig. 6.—American Middling good colour, 1 inch.

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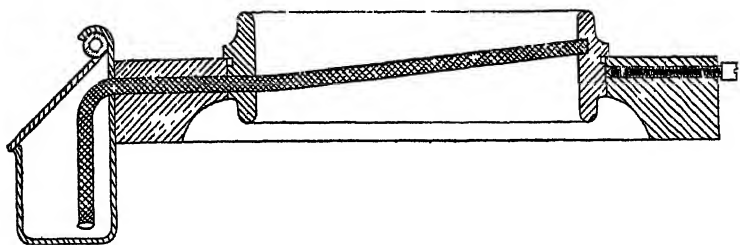
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New Fibres on Cotton Machinery.

*Paper prepared by M. GIANNOLI for the VII International
Cotton Congress, Milan and Rome, 1935*

THE substitution of cotton by new artificial and natural fibres in the world's markets has been a subject of serious consideration for the cotton trade. That cotton growers have been hard hit by the increasing consumption of the new fibres is unquestionable, but, as regards spinners and weavers, the problem is rather one of adaptability, as for them the new fibres do not necessarily represent competition, but merely an added variety to the materials used heretofore.

For a number of years it has been considered out of date to class the weaving of cotton, wool and artificial silk as entirely separate industries, and the habit of referring to them generically as the "textile industry," although they employ all kinds of yarns, is becoming more and more general. Wool and cellophane, artificial silk of numberless chemical compositions and qualities, cotton with admixture of hemp and other vegetable fibres, real silk, either in continuous sliver or cut to the staple length of cotton, threads made of metal, glass or paper, rubber impregnated yarns and yarns composed entirely of rubber, are often found together on a loom to be woven into the same cloth.

To-day this same universal character is gradually permeating throughout the spinning industry, and in no branch has greater benefit been derived than in that of the spinning of cotton. The greater perfection of the cotton ring frame as compared with the machinery used in the spinning of other traditional fibres, such as wool, flax and hemp, enables it to spin practically all the new textile fibres.

The higher standard of technological achievement in cotton-spinning processes is the result of the material used. Cotton, of all natural fibres, is the one inherently best suited for spinning: it grows in the form of a boll whose fibres are completely isolated from one another and are consequently provided with a surface skin. The natural convolutions of the fibres appear to have anticipated the twist which they are later to receive in the yarn. In the case of the new fibres and mixed yarns the object has been to attain as nearly as possible the perfect spinning qualities of cotton, and the greater the success in this direction the more easily can they be used on the cotton ring frame.

Artificial fibres, which originally were solely employed in the form of a long continuous thread, without any intermediate spinning process, have since been cut into staple length and worked on cotton machines. As the consumption increased, it was considered superfluous to produce hanks and then to place these under the cutters, instead, the slivers, immediately upon emerging from the row of nozzles, are gathered together in the manner of a thick rope before they reach the knife which cuts them to specified lengths. Latest experiments have succeeded in producing an entirely intermittent process, planned in such a way that the nozzles eject a fibre of a given length every time. Of course, the usual bath is replaced by a sufficient volume of acid steam which, from underneath, attacks the fibres as they are ejected from the nozzles above. At the foot of the high erection the flakes of the new cotton, produced in a tier instead of on a plant, gradually pile up like a strange fall of snow.

Even natural silk and its by-products, when cut to suitable lengths, offer surprising possibilities in cotton technology, and there are many kinds of wool which are also suitable for spinning on cotton ring frames.

A recent development which has opened up new vistas for cotton spinning mills is the increased use of the bast fibres of many textile plants, such as flax and hemp. This new development has already passed from the experimental to the commercial stage, and in these times of strict economy when countries are compelled to try to produce all they need at home, the fact that flax and hemp are easily grown in Europe is not without importance.

As is well-known, flax and hemp have for many centuries been spun together mixed fleeces composed of fibres of both these materials measuring about 40 cm. each in length and not more than 2 mm. in thickness being stuck together by means of vegetable gums. For this reason combing and spinning machines for the hemp industry have been designed with a view to treating fibres of this length.

Finally, attempts have been made to separate the fleeces in order to make the monocellular fibres of which they are composed, free, as in cotton. This process of freeing the fibres from adhesive substances has been called "cottonization," and in Germany "Veredlung," that is, "ennoblement," and the resultant material has been called "cottonine." But the product is too different and too good to be given a name suggesting a substitute. In my opinion it would be more accurate to call this process by what it essentially is, namely, elementarization, and the product, monocellular flax and monocellular hemp respectively.

Combing processes, as employed in the normal treatment of hemp and flax include also the elimination of vegetable gums, but only partial elimination is obtained by retting. Immediately after the stalks are gathered, the fibrous portions are separated from the woody ones and from the bark by the process of retting, supplemented by a mechanical softening, stripping and beating process. The success of this latter operation depends upon the degree of com-

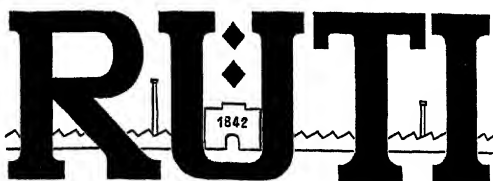
pleteness in the retting. In order to obtain natural maceration in the field, the stalks separated from the roots and, minus the seeds, are steeped in stagnant water and held down by weights. The water infected with bacteria *anaerobica*, which is normally present in retting pools, in the fields, and even on the plants themselves—the *bacillus jelskii* isolated and industrially supplied by the Italian, Prof. Carbone—penetrates into the stalks and, by reason of the specific action of the bacteria, eliminates to a large extent the adhesive substances. Naturally, the action is all the more thorough if the retting is carried out in an industrial manner by using artificially cultured bacteria—the enzyme being planted and allowed to multiply in a suitable bed of potatoes—and it is interesting to note that process of this character renders possible the maceration of a very large number of secondary plants which were hardly ever used in the past, such as broom, willow, aloes-hemp, etc.

But apart from bacteria-retting, there is also a process which is based on chemotaxis, namely the elimination of the adhesive gums by means of alkalis. Ancient methods of this kind almost invariably made use of wood ash, spread over the stalks laid on the ground. The moisture in the atmosphere acts on the wood ash and subjects adhesive matters in the hemp to the action of the alkalis. It appears that this, like so many other clever expedients, originated in the Far East, and so firm was the belief in its efficiency that, during the French Revolution, the Government of France passed a law compelling its adoption in all the flax centres. The fundamental difference between the two methods is seen in the possibility of prolonging the chemical process until the fibres are completely freed, whereas by the biological method, retting has to cease before the stalks commence to rot, and while they still contain a certain amount of glutinous material.

For this reason the attempts to free completely the monocellular fibres, normally carried out with fleece which had been biologically treated, have tended to push forward the chemical process. Two obstacles, however, had to be overcome; viz. the elimination of the viscous matter had to be so complete as to avoid that, after drying, the multicellular adhesions, so harmful to spinning, should form again; on the other hand much care had to be taken in order that the chemical reagents should not damage the fibres when these were no longer protected by the gummy incrustations. From the micro-photographs attached to the present report can be seen both the successful and the unsuccessful product. Fig. 3 shows the result when the chemical action has been too strong (caustic soda at 30 per cent. cold strength): the single fibres are inflated and wrinkled with a resultant loss of strength. Fig. 4 shows some hemp fibres in which there are still present a number of multicellular adhesions due to the incomplete elimination of the viscous matter, and finally Fig. 5 shows the result of a perfect chemical treatment.

Hemp fibres when freed are monocellular; tubular, with a polygonal section or often flattened in the manner of a tape, with a small internal lumen (see fig. 2). The average length is 25/30mm. and the diameter is from 20 to 28 microns, which compare fairly well with the corresponding dimensions of cotton. But they do not

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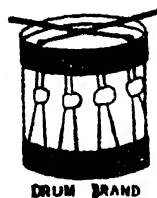
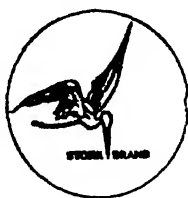
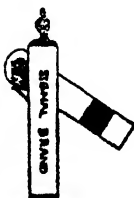
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possess the same convolutions, nor have they that skin peculiar to fibres which, like cotton, grow on the outside of plants.

Experiments in the separation of hemp fibres have been conducted in almost all countries. In general, the basis of such experiments has been the treatment of the material with either hot or cold alkaline liquids, often in conjunction with bleaching, oiling or cleansing agents.

In Russia, where large quantities of hemp and kendir are grown, Prof. Victorof has adopted the method of treating the fibrous matter under the influence of heat—two boilings of one hour each—with 10 per cent. and 30 per cent. caustic soda respectively; and he adds sodium bisulphite and sodium silicate in order to prevent the formation of oxycellulose. Profs. Vorokof and Filipof, on the other hand, recommend the addition of absorbents such as oleine soap and potassium sulphide.

The well-known Frankfurt Dye Works I.G. prefer to use sodium carbonate in two successive baths, with an intermediate hypochlorite treatment. By this means the separation and bleaching of the fibres are obtained in one single operation. Another of their processes is the use of peroxide of hydrogen for bleaching. In Germany, due mainly to the vast applications and improvements introduced by the firm Gminder, of Reutlingen, monocellular hemp and flax have been in commercial use for over four years.

Charbonneau, in France, before either bleaching or treating the hemp with alkalines, introduces a system of mechanical processes, employing an opening machine, a shaker and a combined opener-card. Reports suggest the use of the material produced by this method as wadding, from which it would appear that the action of these preliminary opening machines is harmful to the fibres and renders them less suitable for spinning processes.

A Czech-Slovakian patent belonging to Von Ehrenthal & Scholz prescribes squeezing or heating the bast during the chemical treatment, and then removing the gummy incrustations from the treated fibres by means of strong jets of water. The apparatus designed for this purpose comprises the usual draft rollers which, if desired, may be immersed in the liquid. The first pair of rollers may be replaced by a tripler press, the feeding motion being provided by the use of rakes working alternately. The strong jets of water can be applied to the fibres by the adoption of hollow rollers suitably provided with sloping slots.

In Italy the Government has entrusted His Excellency Prof. Parravano with the examination of the various methods for the elementarization of hemp in relation to the national growers of this textile plant. A number of different treatments have been evolved by Prof. Palazzi, Dr. Cerini, Dr. Barzaghi and others, and the Cotonificio Valle di Susa is using monocellular hemp on an industrial scale. The writer, in collaboration with Prof. Natta, has patented a process which is widely different from all others, and which not only improves the conditions of the chemical action but also makes use of a special physical and mechanical process.

For the moment it is difficult, if not impossible, to calculate the working cost of monocellular hemp, as it varies considerably according to the method of elementarization adopted. It is, however, possible to examine the basic elements for such calculation. In Italy, the price of first selection hemp is at present about Lir 280/300 per 100 kilos, where second selection, which is just as suitable for elementarization, is quoted at Lir 180/190 per 100 kilos. Working on the basis of the lower-priced material, and bearing in mind that there is a loss in weight of about 50 per cent during the process of eliminating the adhesive substances, the price of the final product—apart from the cost of the elementarization—is about Lir 257—, whilst for the first selection hemp the price works out at Lir 400/430 per 100 kilos.

An examination of this economic problem from the point of view of prospective competition with cotton makes it quite evident that in the case of first selection hemp there is no margin left for the cost of the elementarization process, and that in the case of second quality hemp, in order to compete with cotton, the process should not cost more than Lir 100/150 per 100 kilos. It should be borne in mind that the lower price of the second quality—female plants gathered at an advanced state of maturity—is due to two factors: the first, which is caused by the smaller demand on the part of hemp spinning mills, will probably disappear according as elementarization becomes more developed, the other is due to the additional income that the farmers derive from the sale of the seeds, from which oil is extracted.

With strict economy, therefore, and employing second selection hemp, it would be possible to keep the price down to the level of cotton, and providing a cheap elementarization process were adopted, an even lower figure could be reached. But when one handles a piece of cloth made of monocellular hemp, shiny, smooth and as pleasant to the touch as linen, the hope naturally arises that it will be able to command the higher prices justified by its superior appearance. To realise the vast possibilities of technical and consequently economical development of elementarized hemp, we have only to recall the enormous development which has taken place in the case of artificial silk, the difference between the first yarns that broke immediately they became damp and the present strong, washable yarns of great beauty and infinite variety. Nor should it be forgotten that even cotton, when it was first introduced into Lancashire, appeared to offer such technical difficulties that the woollen mills in existence at that time thought it necessary to mix it with wool.

The probable increase in the industrial use of monocellular hemp will no doubt have a world-wide economic influence. If the new product will add further variety to the already rich assortment of textiles at the disposal of cotton spinners, for Italy this will represent an important new outlet for her agricultural industry. And finally, a home grown textile would practically secure Europe against shortage, due to wars or other obstacles, of her overseas imports, assuring her of a constant reserve of yarn.



FIG. 2
Section of Fibre shown in Fig. 1
enlarged many times



FIG. 1
Biologically Retted Hemp not chemically treated
Enlarged to 72 times natural size

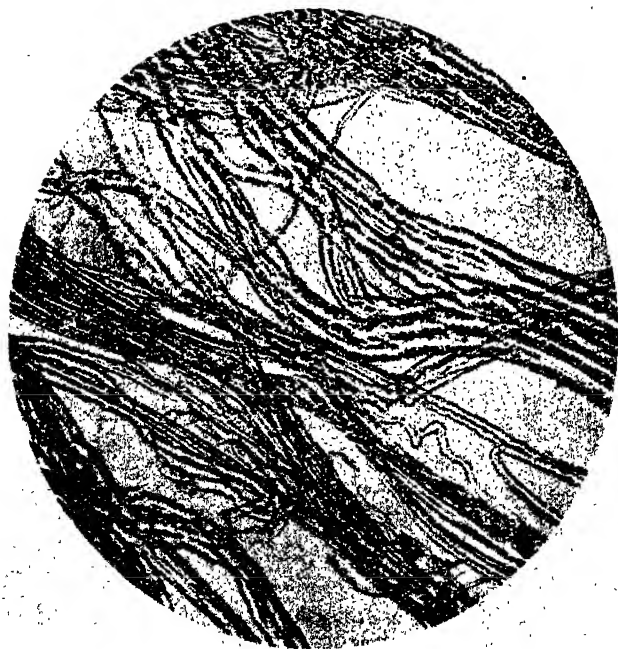


FIG. 3.

Defective Monocellular Hemp having inflated and corrugated fibres.

Enlarged to 72 times natural size.



FIG. 4.

Defective Monocellular Hemp with pluricellular adhesions owing to incomplete degumming.

Enlarged to 62 times natural size.

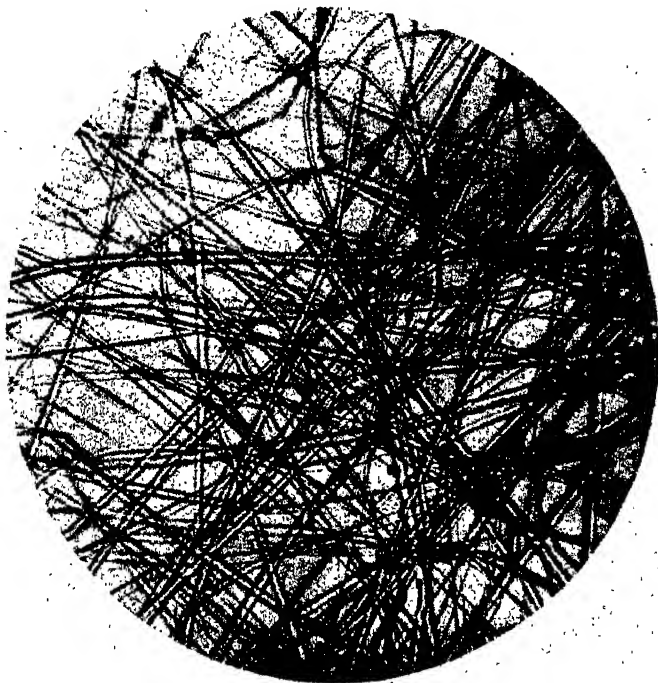


FIG. 5.

Successfully treated Monocellular Hemp.

Enlarged to 62 times natural size.

The Humidity of Raw Cotton and the Determination of its Mercantile Weight.

Paper prepared by CAMILLO LEVI, Chief of the Royal Experimental Station for the Paper and Vegetable Textile Fibre Industries in Milan, for the XVII International Cotton Congress, Milan-Rome, April 29-May 4, 1935.

THE question of the control of humidity and of the consequent commercial weight of the lots of raw cotton purchased by European spinners has been to the fore for many years, and it is very strange that no logical solution to this question has yet been found.

Indeed, there is much confusion as regards the real purpose of this control, and the manner of expressing the results; certain objections and remarks expressed at many previous cotton conferences prove this statement. For instance, it has been said repeatedly that cotton controlled at English ports contains a higher degree of humidity than when the same cotton is examined in Genoa, this being due to the greater humidity of the local atmosphere; it has further been said that cotton should be conditioned exclusively at the port of shipment, because whilst it is stored in the warm holds of the ships, the hygrometric condition of the cotton may vary. All the objections of this kind have no foundation whatever from the practical point of view of control. The real purpose of the conditioning is to find "the commercial weight" of the lot; in other words, the weight of the cotton in an absolutely dry condition, plus the legal normal amount of moisture. It is, therefore, evident that the weight of dry cotton, whether it be of a bale or of a lot, i.e., the commercial weight obtained therefrom, is always the same, quite irrespective of the conditions of moisture at the place where the cotton happens to be. To make the matter plain, we will cite an absurd example: a bale could be immersed in water until it was soaking wet right through, and yet that would not affect the conditioning test, the results would be exactly the same, provided, of course, that the sample represented the whole of the contents of the bale. In short, the purpose of the conditioning test is to establish the actual quantity of cotton of standard moisture contained in the lot in question; this quantity is constant, and no hygrometric variation can change it.

Of course, even though excessive moisture subsequently absorbed by the bales cannot change their commercial weight, such excessive moisture may cause damage from the technical point of view, because it is known that cotton containing too high a degree of moisture causes difficulties and trouble in the course of its use in manufacture.

In consideration of the doubts still existing on this matter, it does not seem to me to be superfluous to review briefly the subject under discussion, although it has already been dealt with on more than one occasion.

The problem of moisture content in cotton may be approached from three different viewpoints, which prove their reciprocal interdependence: these are (1) the hygroscopic property of the fibre and the study for the determination of the correct value of the standard amount of moisture under normal conditions of humidity; (2) methods for the experimental control of the commercial weight and their unification; (3) commercial negotiations and agreements in respect of the moisture.

After the Congress held in Turin in 1874, when the normal amount of moisture was fixed at 8.5 per cent. (normal atmospheric humidity being 60 per cent.), the subject was again taken up by Müller in 1882, but it is largely during the last 20 years that experiments with the above-mentioned object in view have been made in comparatively quick succession, especially with the object of establishing the causes that may affect the value of the normal amount of moisture, and, further, with the object of amending the standards determined in Turin for the various textile fibres, as may be found necessary.

The experiments that were carried out in 1914-15 by Schaposchnikoff in the laboratory of the Kiel Technical College ⁽¹⁾ for comparing the percentages of the normal amount of moisture of the various fibres with those fixed in Turin, are particularly well-known. The average value ascertained for cotton was 11.66 per cent; from the results reported by Schaposchnikoff it is clear that the tests were carried out with a comparatively high atmospheric humidity (76-78) per cent. Another demonstrator, viz., Mr. Rosenzweig ⁽²⁾ subjected to a critical examination the results of the Russian investigator, and proved that in so far as the matter refers to the hygroscopic property of the fibre, bearing in mind the different surrounding atmospheric conditions, the values ascertained by Schaposchnikoff agree on the whole with those established in Turin.

The value of the normal amount of moisture is, however, influenced in other ways than by atmospheric conditions alone. As a matter of fact, many investigations have shown that the moisture content in cotton under definite thermic and hygrometric

(1) *Melliands Textilberichte*, 1926, page 844.

(2) *Melliands Textilberichte*, 1929, page 365.

conditions of the atmosphere also depends on the conditions to which the sample was previously exposed

Urquhart and Williams ⁽¹⁾ point out, for instance, that if cotton is introduced to normal atmospheric conditions, and is left there even for a very long time, the percentages of moisture in the fibre at the end of the test are higher, if the cotton was initially damper than the surrounding air, and lower in the contrary case. It has been found that the normal amount of moisture may also be influenced by a preliminary warming of the sample, for instance heating at a temperature of 110° C. reduces the moisture-absorbing capacity of the cotton.

The values of the normal amount of moisture ascertained by the various investigators vary considerably from one country to another and from one year to another, as was seen, for instance, from the numerous results of tests submitted every year at the International Cotton Committee Meetings. Of the tests carried out recently in America, with American cotton, I will mention in particular those of the North Carolina Cotton Growers' Co-operative Association ⁽²⁾ made in the autumn of 1928 after a period of heavy rainfall. They gave 8.25 per cent. as the average percentage of moisture content. On that occasion a certain relation between the length of the fibre and its tendency to attract moisture was discovered.

The average percentages obtained each year with Egyptian cotton and collected by the International Federation, are known.

Moreover it can be said that the weight of a bale of cotton varies almost from one moment to another. Dr. Balls ⁽³⁾, speaking on this subject at the Congress in Barcelona in 1929, made known some results of his own experiments on differently made-up bales and on non-pressed cotton. In the first case, the daily variation of the weight is in proportion to the surface of the bale, but independent of its weight. The tests showed a daily variation, in the case of steam-pressed bales, of 180 gr., the maximum being in the morning and the minimum in the evening.

The Technological Laboratory of Matunga in Bombay has also taken an interest in these variations of weight, and constructed an apparatus for the automatic registration of the variations according to the change of the surrounding conditions ⁽⁴⁾. Among the investigations for the purpose of establishing the normal amount of moisture in cotton, we must also mention those of Obermiller ⁽⁵⁾, which give 9.5 per cent. as the average amount, with a surrounding degree of humidity of 65 per cent. and at a temperature of 20° C.

⁽¹⁾ Journal of the Textile Institute, 1924, T 138

⁽²⁾ Textile World, 1929, 76, 2923

⁽³⁾ International Cotton Bulletin, 1929, 8, 25 and 127

⁽⁴⁾ International Cotton Bulletin, 1933, 45-91

⁽⁵⁾ Mellands Textilberichte, 1926, 71

this value is considerably higher than those found by other authors and investigators, for instance by Muller

The so called hysteresis phenomenon in the processes of absorption of humidity and of drying of cotton which is of some importance in fixing the exact value or average amount of moisture, was thoroughly examined by Ullquhart and Tickersall (1). The tests were made whilst changing the samples from the absolutely dry state to the state of saturation and vice versa. The phenomenon of hysteresis was noticed, proving that the curves of absorption and of drying do not coincide but mark "an area of equilibrium"

Fresh experimental data was given also by Mr Schaposchnikoff (2), in the course of his preceding experiments

Without enlarging on these and numerous other investigations made with the object of a thorough study of the hygroscopic properties of cotton, I will remind the reader that researches with this end in view were also made at the experimental station for textile fibres in Milan, which I have the honour of directing. Though these researches have not yet been completed and still require the confirmation of other experimental data which will be communicated in due course, and by reason of which alternatives may be suggested, yet the results so far obtained justify the conclusion that the adoption of the standard of 8½ per cent for the normal amount of moisture content in cotton is justified this being the average result of numerous tested samples

A further very important question, which is a necessary premise and corollary to the agreements, made or still to be drawn up in connection with the question of moisture in raw cotton, is that of the manner of taking samples, of drying and of calculating the results, in other words the exact valuation of the commercial weight of each single lot or consignment. It has been shown more than once that the manner of effecting the control and especially the manner of taking the samples has a great effect upon the results

As regards the drawing of samples from the bales, a subject upon which I have already expressed an opinion on another occasion (3), it is evident that the samples drawn must be such as to represent the entire lot in the conditions of moisture at the time the examination is made. Various methods of taking the samples have been proposed, among the many methods I would mention the method adopted first by the office in Havre, and then by the Institute in St Gall, by which the samples are taken from the centre of the bales, then the method illustrated by Mr L. Motte, in which three samples are taken from each bale, one sample from the centre and the other two 10 cm from under the covering at the two ends, then the method of the Swiss Testing Institute in St Gall, in which two samples are taken at symmetrical points in respect of the centre

(1) Journal of the Textile Institute 1930 T 499

(2) Mellin's Textilberichte 1930 113 and 197

(3) Bollettino Reparto fibre tessili della R. Stazione Sperimentale 1932 168

of the bale, at a distance of a third from the "edges" of the width, length and depth (total weight about 400 gr.); the method of Dr. Van Delden, approved by the International Cotton Federation, in which a sample of about 500 gr. is taken from each bale, taking the sample from the first bale underneath (or below) the first and third hoop, from the second bale underneath (or below) the second and fourth hoop, etc. According to the rules of the experimental station for Vegetable Textile Fibre in Milan, the samples may be taken by hand or by mechanical means. If the samples are taken by hand, the bales are opened and three samples are taken from the centre of the bale and from two other proportionately separated positions. These samples to be equal as possible, and to weigh about 100 gr. each, so that when mixed together they form a sample of 300 gr. to be tested.

When the samples are taken by mechanical means (which avoids having to open the bales) a stem-like apparatus cleverly made by Comm. Tobler is used. This method realizes my idea of taking samples by means of a rod or stem-like apparatus from various points of the bale, representing all the layers of the bale. The apparatus in question was demonstrated at the meeting of the International Cotton Committee that took place in October, 1932, in Lugano. With this method, four samples of 75 gr. each are taken from four various points; these samples taken together form a sample of 300 gr. to be tested. The testing-house regulations do not specify how the samples must be taken, this being left to the discretion of the Manager.

As regards the number of bales to be tested, practically all parties take 10 per cent. of the total number. The Institute in St. Gall subjects n bales to the conditioning test, n being $0.7 \sqrt{n^0}$ bales, which in lots up to 50 bales is equivalent to about 10 per cent., the percentage being a little lower in the case of larger quantities. The experimental station in Milan, whilst making it a general rule to test 10 per cent. of the total number of bales, has fixed a minimum of three bales.

All parties agree that the bales to be tested and their respective tare must be weighed at the time of taking the samples.

The drying must be done in the conditioning ovens built for the purpose until a constant weight is reached. There exists a difference of opinion on the drying temperature; our experimental station effects the drying at the temperature of $100-105^{\circ}$ C., and the same temperature has been adopted also by many other testing houses. Dr. Van Delden and the International Federation recommend a temperature of $105-110^{\circ}$, but the difference does not seem to have any great influence on the results. I consider, however, that the temperature of $115-120^{\circ}$ C. adopted by the testing house in Alexandria is excessive. American connections mention $200-240^{\circ}$ F., which is equal to $95-115^{\circ}$ C., the maximum limit being also really too high.

The commercial weight of a quantity of cotton, of which, of course, only a proportion of say 10 per cent. has been tested, is expressed as a rule in percentages; the calculation of this commercial weight in percentages is made by taking the total dry weight of

the test samples, expressed in a percentage of their initial nett weight, adding the normal amount of moisture. The difference, negative or positive, between 100 and the value thus found, will give the percentage of cotton plus or minus.

Example—

Lot consisting of 100 bales. Samples taken from 10 bales. Nett weight of the samples taken from each bale — 300.8 gr.

308.—
302.—
309.7
305.—
303.9
304.1
304.3
303.6
305.8

Nett weight of the samples taken from
10 bales gr 3,047.2

Total weight of the samples in absolutely
dry condition , 2,763.2

Percentage of dry cotton:—

$$3047.2 : 2763.2 = 100 : x; \quad x = 90.67\%$$

Commercial weight 90.67 plus $\frac{8.5 \times 90.67}{100}$ — 90.67 plus 7.70 —

98.37 %, equal to 1.63 % less cotton of normal moisture.

If the samples for checking the moisture are taken immediately after weighing the complete consignment (for instance, at the port of discharge), the commercial weight, in a percentage calculated as above, may be “referred” to the ascertained net weight of the consignment, thus deducting “in absolute value” (kilogrammes or pounds) the commercial net weight of the consignment.

The net weight of the consignment is estimated by deducting the tare weight from the gross weight ascertained; the tare is arrived at by applying the weight of the tare, ascertained on the tested bales, in proportion, to all the bales.

Example:—

Consignment as in the preceding example

Percentage of commercial weight already calculated: 98.37%.

Gross weight of the consignment of 100 bales (ascertained immediately previous to the taking of the samples) kg. 34,668

Tare (on 10 tested bales), kg. 99.8, therefore tare on the whole consignment , 998

Net weight of the consignment at the moment of testing, kg. 33,670

Commercial weight (in absolute value) of the consignment

$$= 33,670 \times 98.37 = \text{kg. } 33,121.2$$

100

It would, of course, be very useful indeed if we could standardize the methods for conditioning cotton, that is, not only the method of taking samples, but also the manner of drying the cotton and the method of expressing results. An idea which has been supported at recent Cotton Conferences is that standardization should be both national and international, and be arrived at by comparing and discussing the methods adopted by each country.

In Italy the problem was taken up by the "Ente Nazionale per l'Unificazione nell'Industria" (UN I), which, acting on the proposal of the experimental station in Milan, appointed a technical committee for the standardization of the rules for carrying out the tests in the textile industry. The first problem that was considered by this Committee was that of the "textile material seasoning tests," and the first standardization plan has already been drawn up. The rules indicated by the experimental station, the most important of which have already been mentioned above, were accepted for cotton.

It is to be hoped that in other countries, in so far as this has not already been done, the unifying bodies, or authorities, will follow the Italian example, and include in their programme the standardization of the methods of analysing textiles, taking first of all the methods for checking the commercial weight of raw cotton, at the same time taking into account, as much as possible, the standardizations that may already have been effected in other countries.

An endeavour has already been made to solve the problem internationally, the Federazione Internazionale delle Associazioni di Chimica Tessile e Coloristica (International Federation of the Associations of Textile and Coloristic Chemistry) in Basle, being already engaged on this problem. I sincerely hope that a solution will soon be found, because this solution is an indispensable preliminary to the desired agreement among all the exporters and spinners upon the question of moisture.

I will conclude these brief remarks on the method of testing for moisture by reminding my readers that during the last few years a number of entirely new processes have been proposed instead of the classical process of drying. The process of Dr W. I. Lawrence Balls⁽¹⁾, already mentioned on another occasion, is based on the difference between the dielectric constant of the water, which is very high (about 80), and that of dry cotton, which is very low (about 2). Dr Balls thinks that by establishing the electric capacity of a whole bale of cotton it is possible to make an approximate estimate of its contents of water and of dry cotton. This method can only serve as a rough guidance, because there are various circumstances that could cause a mistake, for instance a deposit or a layer of moisture on the surface of the bales, as has often been noticed in northern countries.

The use of the "Eicken" electro-psychrometer is also based on the measure of the electric capacity. This method enables one to ascertain, simply and rapidly, but only approximately, the per-

(1) International Cotton Bulletin, 1932, 40, 549

centage of moisture contained in open textile fibre (for instance, cotton), and in other materials. The moisture value is obtained by measuring the electric resistance and the polarizing effects, values which vary according to the content of moisture in the material to be examined.

These methods, as admitted by their sponsors, cannot substitute the official conditioning in stoves, they are merely quick auxiliary short cuts.

It is known that the Ium Congress of 1874 fixed the official normal amount of moisture for cotton at 8.5 per cent. The first exception in regard to moisture appears to date back to 1830, when on the occasion of a meeting of the Committee of the United Spinners' Association, it was decided to demand a contribution from the spinners, with the object of defending their rights and interests as a whole against the shippers in the matter of moisture.

The matter was taken up more forcibly at the second Cotton Congress, held in Liverpool in 1905, when Mr H. W. Macalister, by means of statistics pointed out the injustice of the regulations of the Liverpool Cotton Association, according to which the judgment in the matter of moisture, in case of complaint, was given empirically "by touch" by two experts. It may be mentioned that the regulations of the American Cotton Exchanges also left the question of moisture unmentioned. The Liverpool Cotton Association however, declined to take into consideration the protestations of the International Cotton Federation, and succeeded in producing the surprising declaration that "the adoption of a scientific method of measuring the moisture is impracticable, because the humidity of the cotton (whether in excess or not) is due to the atmosphere over which no human force has any control."

The question of moisture has been on the agenda of nearly every successive Congress, and it was insisted at the first of these Congresses that all countries should organize conditioning houses similar to the one established in Havre, France. It was further requested that, in the meantime, the spinners should establish by scientific methods the amount of moisture in the cotton they receive, and report the results to the Federation. It was thought that only by submitting ample documentary material, based on actual figures, would it be possible to induce the exporters to give up their intransigent ideas.

At all the following Congresses the spinners demanded a scientific method of controlling moisture, and the inclusion of a guaranteed maximum in the contracts. At the Congress of 1912 the question, which up to then had reference mainly to American cotton, was raised also in connection with Egyptian cotton. At the Congress of 1913, in Scheveningen, these questions were discussed very exhaustively. At that Congress the American delegate, Mr Harvie Jordan, said "We are definitely willing to establish a standard amount of moisture in the cotton and to guarantee that this amount shall not be exceeded." It is known that this declaration has remained ineffective up to now. At the same Congress, Mr L. Motte, of Tourcoing, after a short review of the history of the question in an ample exposition, insisted on the necessity of

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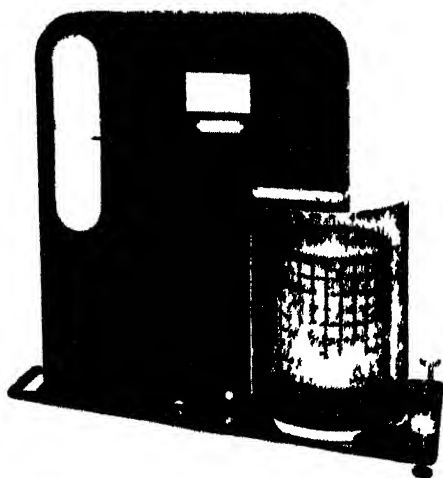
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instituting conditioning houses at the ports of discharge, pointing out the remarkable advantages offered by the service of the laboratory in Havre from the point of view of the moralization of trade and of the avoidance of disputes

After the inevitable interruption caused by the World War, the problem was taken up again at the Stockholm Congress in 1922, but for several years the demands of the spinners had no more success than before the war

At the Congress of Alexandria in 1927 the question was temporarily concentrated on Egyptian cotton. On that occasion the Swiss Cotton Spinners' Association explicitly demanded (a) that the Alexandria Cotton Exporters' Association should cancel the arrangements of 1911, which do not allow any member to guarantee a maximum degree of moisture, (b) that for the purpose of ascertaining the degree of moisture, fixed standards should be adopted, and that in the absence of agreement, the results of the conditioning houses of the respective countries should be accepted. Also, the Swiss Association proposed the institution of a conditioning house in Alexandria. The Egyptians no longer disputed the principle of effecting a control, but rejected the rate of 8½ per cent by reason of experiments carried out in Egypt. They requested the spinners to supply systematic data on a series of tests made in each country and with each quality, and they suggested that the exporters should condition the cotton before shipping it.

At this important Congress (at which for the first time the possibility of a practical solution of the problem was admitted, if only by implication) the Joint Egyptian Cotton Committee was formed, composed of spinners, producers, and members of the Egyptian Ministry of Agriculture. The question of determining the amount of moisture in the various kinds of Egyptian cotton was entrusted to this Committee.

At subsequent meetings of this Committee, the spinners' representatives of the various countries submitted from time to time very interesting and abundant material consisting of tables and diagrams showing the excess of moisture in Egyptian cottons on their arrival in Europe. The report given in 1928 by Mr. Arno S. Pearse, then the Secretary of the International Cotton Federation, made a great impression. Mr. Pearse showed that during the season 1927-28 Egypt sent to Europe 5,000 bales of water instead of cotton, which meant a loss of about 22½ million Italian lire to the spinners.

The Egyptians did not deny the value of this proof, and expressed a desire to await the results of the experiments being made at the time in Egypt.

It is known that protracted and rather difficult discussions took place before a definite agreement was reached, and that the agreement reached formally in 1929 in Barcelona was not confirmed by the Egyptians in Cairo and Alexandria until 1931, and then only for one year. It was extended to September, 1936, at the Prague Congress in 1933. It is known that according to this agreement Egyptian cotton should have an average amount of

moisture of $8\frac{1}{2}$ per cent (calculated on the dry state), and with a tolerance of 0.4 per cent up or down; any allowance for excess of moisture is therefore due only on the excess above 8.0 per cent. At the same time, an experimental station was established in Alexandria under the control of the Egyptian Government, and the shippers and spinners could have the consignments tested by the official laboratory at the moment of the cotton being put on board ship or at the time of discharge from the ship, the decision of the said official laboratory to be accepted by both parties.

This very old problem may thus be considered as solved, at least for the moment, in the case of Egyptian cottons. The first few years of the working of the testing house have proved the efficiency of the system, which is more of a preventative than a repressive character. The Egyptian shippers, knowing very well what the justified claims on the part of the spinners mean, see to it that the degree of moisture in their cottons is correct, and do not adopt the watering system, about which not very edifying information is available as regards past practice. As a matter of fact, comparatively few complaints were made after the agreement was reached, and still smaller was the number of justified complaints.

On the other hand, the problem may be considered as being still far from settled with regard to American cotton, the exporters of which, in accordance with the practice of the Liverpool Cotton Association, continue to refuse to admit a maximum amount of moisture and a scientific method of ascertaining the actual quantity of water contained in the consignments. The following motion, accepted by the European Cotton Committee (a committee consisting of representatives of all European Cotton Exchanges) at the meeting of September, 1933, in Rotterdam, is really astounding and symptomatic in this respect: "The European Committee confirms its preceding decisions not to establish a standardization of the amount of moisture in American cotton. The English spinners do not think that the system of testing the moisture of the Egyptian cotton has given satisfactory results." This is an absolutely arbitrary statement, contradicted by the reduction of the average percentage of moisture ascertained in the Egyptian cottons during the last few years.

In consideration of this negative standpoint, the International Cotton Federation repeated the procedure adopted in the case of Egyptian cotton, and suggested that spinners should condition consignments of American cotton on arrival and forward the respective results to the said Federation through their respective National Associations.

We have thus obtained the first systematic records, which it must be said, have lately not shown any excessive content of moisture in the cotton. The results submitted at the meeting of the International Cotton Federation, held in London in May, 1934, showed that out of 557 tests made with American cotton, 343 showed higher contents of moisture than $8\frac{1}{2}$ per cent, making an average of 8.684 per cent., as compared with 9.21 and 8.757 respectively, being the figures of the results submitted on the occasion of previous meetings. Forty per cent. of the bales, how-

ever, had an amount of moisture above 9 per cent. and 8 per cent. of the bales had a moisture content of 10 per cent. The French tests showed smaller percentages than the tests made in other countries (8.52).

At the Berlin meeting in October 1934, the same Committee ascertained a further decrease of the average percentage of moisture in the American cottons that have recently arrived in Europe.

These findings along with the low degree of moisture contained in the cottons received in France (where they are systematically well tested) are sufficient to emphasise the great importance of a proper control and of the advantages derived from it by the spinners and even the suppliers themselves, who thus avoid regrettable and often very costly disputes with the customers. This is contrary to the statements made by the European Cotton Committee, and should have the effect of inducing the American exporters to admit the principle of the equity of the control and the inclusion in the contracts of a clause providing for a maximum moisture content. Those exporting firms who are known for their straightforward dealings can only gain by the consequent moralization of the raw cotton trade, with the elimination of not very laudable methods of competition. It is further necessary that the spinners themselves should also adopt the principle of reciprocity, avoiding claims that are excessive and one-sided.

I will conclude this report on the question of the moisture in raw cotton by repeating the wish that, considering the tests already made and any tests that may be in course of being undertaken, both spinners and exporters by adopting a spirit of mutual understanding, may reach a general agreement that will end this old controversy once and for all in the interest of everybody concerned.

But if this end is to be achieved, it is necessary that both parties, and above all some of the sections of the manufacturers and merchants of raw cotton, should give up their prejudiced ideas and bear in mind the warning recently given by the great leader of new Italy, viz., that an agreement is always a compromise between interests which at least apparently are in contrast and from which the general interest must arise. This is the idea that forms the foundation of the new Italian co-operative economic life.

To the above wish I will add the hope that we may all see realized the standardization of the methods of ascertaining the commercial weight of cotton consignments which is a preliminary condition for the realization, without dispute, of the much desired agreement on the question of moisture.





The Possibilities of Overproduction in the Japanese Cotton Industry.

Messrs G B Sansom, C M G., and H A Macrae, M B E M A, Commercial Counsellor and Secretary respectively to the British Embassy at Tokyo, in their recently issued report upon economic conditions in Japan during 1933 and 1934 (published by the Department of Overseas Trade, price 3s 6d net) make the following statement —

“ The output of cotton yarn reached 300,000 bales in October, 1934, and is expected to increase still further in the immediate future. Estimates of new spindles on order vary from one to two million. And yet there is constant talk of over-production. The cry has been raised at intervals during the past two years, and possibly it has lost its terrors. But there must be a limit to the power of markets to absorb the increasing output. The spinners themselves all say so and all are installing new spindles as fast as they can to get them from the makers.

“ To stop the mad race the total abolition of the curtailment of outdoor agreement is being urged, but the smaller spinners are opposed, as they fear they will be pushed to the wall. It seems that the new mills are vastly more efficient than the early mills, which may sooner or later have to be closed. The aim then of the leading spinners is to have sufficient thoroughly up-to-date mills to handle what they would regard as their normal output. They could afford to scrap their old spindles since new equipment has been installed entirely out of profits and not by raising new capital.

“ This is probably the explanation of the inconsistency of the spinners' attitude in pushing forward extensions in the face of almost certain over-production. It is also the explanation of their coldness towards proposals for a building holiday. When drastic curtailment of output was in force it was thought that the abolition of the curtailment agreement would check extensions. There is a paper agreement of 18.8 per cent at present. This is made up by two extra days' holiday in addition to the statutory two days and the sealing of 11.2 per cent of the spindles. But the operatives have had these two extra days' holiday for so long that it is generally supposed that they could not be taken away now without labour disturbance while the bulk of the sealed spindles are more or less

useless in any case. So there is no curtailment worth speaking of and yet extensions continue as fast as ever. Spinners are now beginning to talk of displacing the present two shifts of 8½ hours by one longer shift.

Dealing with the problems at present confronting the cotton manufacturer the report goes on to state that it should be understood that it is only the spinners that are organized. The weavers are very far from organized and therein lies one cause of the disastrous lowering in prices in foreign markets which has aroused so much resentment abroad.

The organization of the spinners is made possible by the fact that they are engaged in mass production. Where the cotton spinners have taken up weaving is precisely in those lines that can be turned out in an unending flow, day in and day out—sheetings, shirtings, drills, etc.—a branch it should be noted which had the added advantage that it enables the mill to consume its surplus supplies of yarn, and so to some extent regulate the supply of sold yarn to the demand from the main consumers. But the consumption of yarn by the spinners only amounts to one-quarter or thereabouts of their total output (though probably it will increase in future). The balance is consumed by small-scale weavers.

Weaving is done in a great number of districts where the production of particular cloths has been a local speciality for centuries. As the spinners have in recent times made available new types of machine-spun yarn, the weavers have turned to the weaving of new types of cloth. Of their skill there can be no question, but the weak point of the system is that the weavers are mostly small men. Certain cloths are made by companies operating on an average about 100 looms, which produce the greater part of the output of that particular cloth, but of all the cloths produced a large proportion comes from weavers operating from 20 to 50 looms. These men have little capital and work to the order of a dealer who assembles the output of a number of weavers and frequently calls himself a manufacturer. If the goods are for export it is the exporter who determines the quality and price. Competition forces down the quality to the barest minimum requirements of the foreign market and the price to the least return that the weaver can accept and live.

Weavers have their special guilds and the Government now gives them power to control quality and price and examine goods for export. These measures have done good, but they are not attended with complete success because in the first place there is an infinite variety of cloths woven, and in the second place most of them can be substituted. To give an instance, the weavers of striped twills were organized into an association which insisted that the weaver should put 120 picks to the inch. Exporters are now displacing them with striped gingham of 110 picks, and even less.

Much of the chaos which has been caused in foreign markets in the last year or two by the inrush of Japanese goods at ever decreasing prices can be traced ultimately to this lack of organization of the weaving section. The evils of the system are recognized by the Japanese but no effective remedy has yet been devised.

THE LANCASHIRE COTTON INDUSTRY.

COTTON-SPINNING INDUSTRY BILL.

A Bill was laid before the House of Commons on July 1 to provide for the elimination of redundant spinning machinery in cotton mills in Great Britain by means of a Board having power to acquire cotton mill property and to make levies upon the cotton industry. The Board has power to acquire cotton mills and machinery offered to it.

A levy for each of the fourteen years will be 1½d. per annum for each spindle and will be paid in four equal instalments during each year. The proceeds of the levy will be used to pay for any redundant machinery purchased by the Board under the terms of the Bill.

No person will be allowed to erect new cotton-spinning machinery without the permission of the Board. Permission may, however, be granted provided that he has broken up an equivalent number of spindles during a period of three years from the commencement of the operation of the Act.

Full details are contained in the "Cotton Spinning Industry Bill," price 6d., obtainable at H.M. Stationery Office, London or Manchester.

The Lord Colwyn Committee have issued a statement showing the incidence of the levy per pound of yarn produced according to the scheme contained in the above Bill. The statement is as follows:—

Counts (Mule Weft)	As proposed in the Bill (pence per lb.)
16's	·012
24's	·018
42's	·033
54's	·049

MANUFACTURING INDUSTRY ACT.

The rates of wages jointly agreed between The Cotton Spinners' and Manufacturers' Association and the Amalgamated Weavers' Association, the principal organizations of employers and workers, have now been made legally binding on all manufacturers in a certain specified geographical area. The order making the prices legally binding is issued by the Ministry of Labour and copies (Statutory Rules and Order No. 602, 1935, 8d. net) may be purchased at H.M. Stationery Offices, London and branches.

THE SWEDISH TEXTILE INDUSTRY.

The following paragraph is taken from a report upon the Economic Conditions in Sweden, prepared by the Commercial Secretary to the British Embassy at Stockholm:—

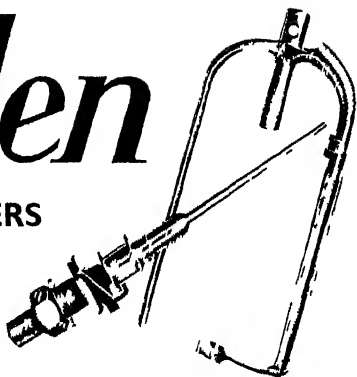
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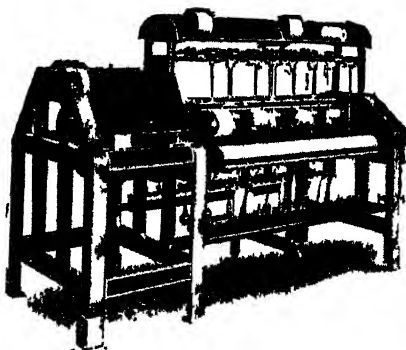
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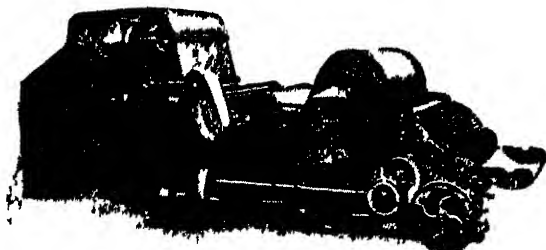
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STALYBRIDGE

The Swedish textile mills were fully employed during the past year, and many of them are now working overtime while others have adopted the three-shift system. During the summer of 1934 prices advanced by an average of 10 per cent.

Several of the large mills have modernized and extended their plant, and others are doing so, in fact it may now be claimed that the Swedish textile industry as a whole is efficiently equipped and able to compete in quality and price with foreign suppliers. The good results of the past year are attributed mainly to the higher purchasing power of the Swedish people and the ability of local manufacturers to meet foreign competition, particularly in woollen costume and ladies' coat cloths and knitted goods; the former have hitherto been extensively imported from Germany and the latter from Japan.

It is expected that the textile industry will this year employ more workpeople than ever before, and that there will be a shortage of female labour. Much of this year's production has been sold in advance.

ARGENTINA.

The cotton manufacturing industry at present comprises six spinning mills and 21 weaving mills, with an invested capital of about 60,000,000 paper pesos (\$15,000,000 U.S.), and the annual value of production is about \$10,000,000, according to local estimates. The growth of cotton manufactures in Argentina has been so rapid that the statistics available are out of date. A recent editorial in the *Revista Textil* states that the number of spindles has increased from 60,000 in 1932 to 200,000 at present, and that before the end of this year the industry will probably have 300,000 spindles. This publication estimates the invested capital at 200,000,000 paper pesos, or about three times the figure mentioned earlier in this report. Local textile publications have estimated that the industry had 2,700 looms at the end of 1933. The construction of additional mills is contemplated, and it is reported locally that American capital is interested in the development of cotton manufacture in Argentina.

This country imports annually approximately \$25,000,000 worth of cotton manufactures, as indicated by the following table, giving values in Argentine paper pesos:—

Year	Total Pesos	Cotton Yarn		Total Pesos	Cotton Manufactures	
		From United States Pesos	Proportion from United States Per cent.		From United States Pesos	Proportion from United States Per cent.
1930	13,850,836	5,653,577	40.8	113,813,359	4,117,950	3.6
1931	11,256,755	4,225,845	37.5	86,325,673	6,748,007	7.8
1932	12,582,611	4,078,382	32.4	83,656,987	5,883,087	7.0
1933	14,412,654	2,513,286	17.4	99,071,882	3,891,943	3.9
1934	12,322,104	—	—	98,575,002	—	—

NOTE.—The average exchange value of the Argentine paper peso was \$0.367 in 1930, \$0.293 in 1931, \$0.257 in 1932, \$0.32 in 1933 and \$0.335 in 1934.

GREECE.

The value of textile production in Greece during 1934 is estimated to have been about 10 per cent. greater than the 1933 total of 2,460,000,000 drachmas (exchange value of the drachma averaged \$0.0074 in 1934 and \$0.0073 in 1933). The index of domestic textile production (based on 1928 equals 100), compiled by the Supreme Economic Council of Greece, rose to 154 for 1934 as compared with 135 for 1933. The increase of about 14 per cent. reflects the general expansion in all branches of the Greek textile industry, including cotton, wool and silk. During 1934 seven new textile manufacturing enterprises were incorporated with a total paid-in capital of about \$500,000, but this figure was greatly exceeded by investments on the part of older companies in extensions to plant and equipment. Statistics compiled by the Council show the following totals for the principal lines of Greek textile manufactures:—

Article	Unit	1933	1934
Cotton yarn	Kilograms	11,150,000	13,178,000
Cotton thread	Dozen packs	180,000	210,000
Cotton fabrics	Metres	26,000,000	38,657,000
Woollen yarn	Kilograms	630,000	700,000
Woollen fabrics	Metres	5,190,000	5,286,000
Oriental carpets	Square meters	48,000	57,000
Silk	Kilograms	215,000	260,000
Silk fabrics	Metres	2,300,000	2,800,000
Rayon	Kilograms	74,000	92,000

The most important development in textile manufacture during 1934 was the 50 per cent. increase in the production of cotton fabrics. Considerably larger quantities of grey sheetings were produced during 1934 as the result of important orders placed by the Government for army use. In addition, cotton duck, calico, oxfords, gingham, cotton tulle, towelling, drills, mattress materials, table cloths, hosiery, and other knit goods and miscellaneous summer dress materials were produced by local mills. Prices of the domestic goods were slightly lower than similar imported fabrics. The exceptional activity among cotton-weaving mills had a direct influence upon the local cotton-spinning mills, which increased their output considerably.

The more important items in Greek textile imports (based on quantity) during 1934 were as follows: Cotton fabrics, 5,107,000 kilogrammes; wool yarn and thread, 1,501,000; cotton thread, 568,000; wool fabrics, 318,000; and wool and cotton mixtures, 212,000.

CHILE.

According to a recent issue of the *Manchester Guardian Commercial*: "Shipments of textile machinery continue to arrive in Chile. A correspondent writes that an important Bolivian textile firm propose to erect a large factory at Santiago for cotton-

yarn spinning. The cost of the building and machinery is placed as high as 30,000,000 pesos, and it is reported that arrangements have been made to allow all the necessary machinery to be imported free of duty. The firm in question say they have purchased 175,000 square metres of land in Santiago on which to build. It is also proposed to cultivate cotton in Chile, as well as to inaugurate natural silk cultivation.

CZECHO-SLOVAKIA.

According to a report, a plan for the reorganization of the cotton industry has been submitted to the interested parties. This plan is said to comprise the creation of a special organization with far-reaching powers, including the right to impose penalties, the fixing of production quotas, the purchase of yarn only through the supervisory organization, the fixing of selling expenses, costing and production costs for all units, notification of sales, etc. The resultant increase in prices on the home market, and the building up of a fund (from levies on yarn purchases) from which export bounties would be paid, are put forward as some of the advantages accruing from such a plan.

ITALY.

WORK OF THE COTTON INSTITUTE.

The Italian Cotton Institute, which was formed about two years ago, has been made responsible for the supervision of the whole of the import and export trade in cotton and cotton goods and mixtures. One of the first tasks carried out by this organization was the introduction of uniform selling conditions. About a year later it was called upon to undertake the fathering of the cotton goods export trade, for which purpose it was aided by the receipts of a levy of 30 centesimi per kilogramme of imported raw cotton (recently raised to 50 centesimi). It is estimated that the income from this source in 1934 was about 56,000,000 lire. A small part of this money was allocated some time ago for the purpose of research into the cottonization of hemp, which is likely to play a much more important part than heretofore from the point of view of the provision of textile raw materials.

As has previously been mentioned, the experiments carried out in this direction have had successful results; cottonized hemp under the name "Sodolin" has met with a good reception, and has found application (in place of wool and linen) for bed linen as well as summer dress materials, pyjamas, and certain types of shirtings. Imports of raw cotton have, it is true, been restricted for the time being to 25 per cent. of the previous year's imports, and the increase in the levy from 30 to 50 centesimi is presumably intended to balance to some extent the reduction in income thereby involved.

The foreign currency for the import of raw cotton is only to be allotted by the banks on the approval of the Cotton Institute. In addition the foreign currency credited in respect of cotton goods exports is to be placed at the disposal of the Institute.

(Textile Weekly.)

PORTUGAL.

PROPOSED ASSOCIATION OF COTTON IMPORTERS.

It is reported in the press that the cotton importers of Oporto have petitioned the Government for public organization and control of the raw cotton business. The Government is urged to appoint a commission for the regulation of the cotton trade, the commission to include representatives of importers and public officials. The cotton importers assert that their business is embarrassed by occasional irregular and unfair dumping on the market of cheap cotton. They also point out that with the cotton import business organized it would be in a favourable position to encourage the importation of colonial cotton.

(Textile Raw Materials.)

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COTTON TRADE STATISTICS

INDIA.

Cotton Yarns.—The total imports, as compared with the year ended March 31, 1934, rose from 32,055,163 lbs. valued at Rs.257 lakhs to 34,013,131 lbs. valued at Rs.309 lakhs. The share of the United Kingdom, although showing a slight reduction in quantity, increased in value from Rs.95.8 lakhs to Rs.100.5 lakhs. Imports from China showed a considerable increase in value, from Rs.64.8 lakhs to Rs.124.1 lakhs, and Japanese imports similarly showed an increase, from Rs.95.7 lakhs to Rs.115.9 lakhs.

Grey Piece Goods (plain grey)—The total imports advanced from 139,972,296 yards (Rs.176 lakhs) to 178,110,746 yards (Rs.230 lakhs). Of these imports those from the United Kingdom dropped from 27,083,880 yards valued at Rs.36 lakhs to 25,071,575 yards valued at Rs.32.7 lakhs. In the same period Japanese imports of grey piece goods rose from 112,531,144 yards to 152,212,154 yards and from Rs.139 lakhs to Rs.196 lakhs in value.

Grey Piece Goods (bordered greys)—The total volume of imports rose from 90,212,955 yards, valued at Rs.130 lakhs to 119,258,950 yards valued at Rs.172.5 lakhs. Of these imports, those from the United Kingdom showed a considerable increase from 61,117,035 yards (Rs.98.9 lakhs) to 77,646,880 yards (Rs.125.2 lakhs). The imports from Japan similarly increased both in quantity and value, from 29,094,740 yards (Rs.31 lakhs) to 41,540,902 yards (Rs.47.1 lakhs).

White Piece Goods (bleached)—The aggregate imports increased from 261,016,775 yards valued at Rs.473 lakhs to 285,243,075 yards valued at Rs.546.5 lakhs. The increase in the proportion from the United Kingdom was even greater than this, from 184,150,440 yards valued at Rs.369 lakhs to 236,607,802 yards valued at Rs.451.6 lakhs. On the other hand, Japanese importations fell considerably, from 75,177,481 yards valued at Rs.95.8 lakhs to 40,261,974 yards valued at Rs.64.5 lakhs.

Printed Piece Goods.—The total volume of trade showed a considerable increase, from 140,229,493 yards valued at Rs.232.8 lakhs to 199,717,695 yards valued at Rs.348.8 lakhs. Both United Kingdom and Japan shared in this increase, the United Kingdom having the greater share of the increased trade. The imports from the United Kingdom rose from 55,924,970 yards valued at Rs.129.8 lakhs to 97,054,546 yards valued at Rs.209.6 lakhs. The arrivals from Japan rose from 83,751,803 yards (Rs.102 lakhs) to 101,657,000 yards (Rs.137.3 lakhs).

Dyed Piece Goods.—There was a very considerable increase in these imports, from 102,563,482 yards valued at Rs.230.4 lakhs to 127,120,200 yards valued at Rs.301.8 lakhs. The Japanese share of this trade fell materially from 24,912,095 yards valued at Rs.36.2 lakhs to 18,470,483 yards valued at Rs.20.5 lakhs. The increased share of the trade therefore was credited almost entirely to the United Kingdom, whose imports increased from 76,405,145 yards valued at Rs.190.8 lakhs to 102,240,003 yards valued at Rs.251.8 lakhs. There were also material increases in the small shares of the trade of Switzerland and Italy. From Switzerland the imports rose in value from Rs.0.46 lakhs to Rs.10.6 lakhs and from Italy from Rs.0.07 lakhs to Rs.3.27 lakhs.

Woven Coloured Piece Goods.—There was an increase in the value of the imports of approximately 50 per cent. The aggregate trade rose from 25,890,482 yards valued at Rs.62 lakhs to 34,105,567 yards valued at Rs.92 lakhs. Of this trade Japan secured the greater increase. The imports of Japanese goods rose from 15,381,585 yards (Rs.26.9 lakhs) to 19,622,487 yards (Rs.44.8 lakhs). The imports from the United Kingdom rose from 9,080,158 yards (Rs.33.5 lakhs) to 13,617,642 yards (Rs.42.0 lakhs).

(H.M. Senior Trade Commissioner in India.)

CHINA.

EXPORTS OF COTTON CLOTH.

Kinds of cotton cloth	1933		1934	
	Quantity Quintal	Value Chinese \$	Quantity Quintal	Value Chinese \$
Drills and Jeans ..	15,096	2,337,929	8,059	985,584
Shirtings and Sheetings ..	87,545	11,603,847	27,536	3,127,731
Nankens ..	31,192	3,791,147	20,392	3,074,769
Other cotton cloth ..	10,284	1,829,203	10,130	1,578,611
Total	144,117	19,562,126	66,117	8,766,695

IMPORTS OF COTTON CLOTH.

				1933	1934
				Chinese \$	Chinese \$
Cotton Piece Goods, grey .. ..	..	..	..	3,435,727	2,242,558
Cotton Piece Goods, white or dyed .. ..	..	..	..	30,534,546	15,999,350
Cotton Piece Goods, printed .. ..	..	..	..	17,821,737	5,752,064
Cotton Piece Goods, miscellaneous .. ..	..	..	..	6,451,423	2,766,386
Total .. ..	..	..	..	\$58,243,433	\$26,760,358

Source : Chinese Maritime Customs Trade Returns. Quantities for imports are in pieces, metres and yards : their grouping is not possible.

ARGENTINE.

EXPORTS OF RAW COTTON FROM THE ARGENTINE FOR THE TWELVE MONTHS MARCH 1st, 1934 TO FEBRUARY 28th, 1935 (IN BALES).

Shippers	France and							Total
	Germany	Spain	Belgium	England	Italy	Holland		
Bunge & Born	27,226	468	6,945	30,719	557	—		65,915
L. Dreyfus & Cia .. .	3,052	—	4,673	13,839	99	1,019		22,682
M. Comeró & Cia .. .	1,851	3,610	3,716	6,056	3,711	—		18,944
Comm. Belgo Argentina	901	—	—	11,914	—	—		12,815
La Fabril S.A. .. .	971	3,855	1,877	3,701	998	—		11,402
J. G. Kaehler .. .	—	—	—	8,772	—	—		8,772
C. Abreu Sosa .. .	—	—	—	4,567	—	—		4,567
N. Mihanovich .. .	—	364	1,512	1,876	366	—		4,118
Rius & Jorba .. .	—	2,850	—	852	—	—		3,702
N. J. Corbellini .. .	—	250	200	2,500	—	—		2,950
Cia G. F. Financiera ..	—	—	—	1,577	—	—		1,577
Varios	74	45	259	609	—	—		987
Total	34,075	11,442	10,182	86,982	5,731	1,019		158,431

JAPAN.

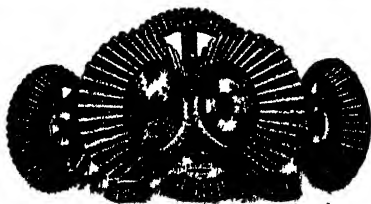
PRODUCTION OF COTTON YARNS AND CLOTHS

Compilers	Cotton yarns Spinners' Ass'n	Cotton textile (C.I.D.)		Silk-cotton mixed textiles		Cotton piece- goods Spinners' Ass'n	Mudm C.I.D.
		Broad width	Narrower width	Broad width	Narrower width		
		metre	piece	metre	piece	sq. yds. 1,000	metre
1932	2,810,437	2,818,301,228	122,223,200	3,668,674	1,678,350	1,533,618	—
1934 March ..	206,872	277,665,351	9,889,210	331,019	89,584	142,095	6,859,028
April .. .	283,001	301,885,909	10,176,302	353,721	79,333	152,583	7,629,366
May .. .	280,452	313,821,108	10,910,104	322,664	90,191	148,762	8,090,200
June .. .	286,026	316,667,721	10,390,806	289,479	59,496	151,184	8,589,749
July .. .	282,541	308,410,914	8,656,364	275,360	48,791	147,077	8,552,482
August ..	290,212	317,669,037	8,803,087	314,126	80,944	150,549	8,644,110
September ..	287,663	321,172,910	8,292,945	303,020	82,161	148,501	8,185,939
October ..	308,171	333,990,621	8,910,689	344,583	91,094	150,415	8,206,676
November ..	322,402	333,115,100	8,623,952	338,552	65,111	158,905	9,102,087
December ..	320,367	334,119,446	9,200,761	374,023	60,086	159,679	10,082,241
1935 January ..	306,386	331,391,155	8,371,187	311,810	65,394	153,672	8,273,928
February ..	305,326	305,242,387	7,322,019	302,455	45,183	158,460	9,218,800
March .. .	205,656	331,760,155	9,370,431	385,256	176,574	154,723	9,596,606
April .. .	307,683	—	—	—	—	—	—
Jan. to 1935 ..	907,367	922,578,235	25,063,073	1,020,521	287,151	468,855	20,906,060
Mar. 1934 ..	811,516	806,108,115	20,121,061	999,241	184,934	425,201	19,393,401

C.I.D. = Commerce and Industry Department

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MISCELLANEOUS

Obituary.

M. ROGER SEYRIG.

IT came as a great shock to the members of the Committee of the International Cotton Federation to learn, on the eve of the Milan-Rome Congress, of the death of their respected colleague, M. Roger Seyrig, of France.

Outspoken and straightforward to a degree, M. Seyrig had little time for any kind of procrastination, and would go to great lengths to justify that which he thought to be the right and proper course of action to be taken in any matter under discussion. One could not help but admire the profound concentration and sincerity of purpose which he applied to all problems which confronted him in his work upon the International Committee.

M. Seyrig, who was 64 years of age, had been substitute member for France upon the International Cotton Committee since 1924, and also a member of the Joint Egyptian Cotton Committee since the foundation of that body in 1928. He was President of the latter Committee during 1934.

His memory will long be cherished by his many colleagues and friends of the International Cotton Federation, upon whose behalf we extend deepest sympathy to his family.

CONSUMPTION OF VARIOUS KINDS OF FIBRE IN JAPAN.

According to a survey made by the Japanese Department of Commerce and Industry, consumption of various kinds of fibre in Japan is reported as follows:—

	1923		1933	
	1,000 kgs.	per cent.	1,000 kgs.	per cent.
Cotton	2,835,000	74.5	3,532,500	69.6
Rayon	43,650	1.1	207,000	4.1
Wool	810,000	21.3	1,192,500	23.5
Raw silk	39,150	1.0	56,500	1.1
Other	78,200	2.1	86,500	1.7
Total	<u>3,806,000</u>	<u>100.0</u>	<u>5,075,000</u>	<u>100.0</u>

TYRE CONSUMPTION OF COTTON YARNS.

The motor and cycle tyre trade absorbs 500 to 700 million pounds weight of cotton per annum. Although tyres are usually regarded and spoken of as rubber manufactures, cotton is actually the predominant partner in weight, volume, and value. The biggest of tyres has really only a small proportion of raw rubber in its composition—the caoutchouc is little more than a waterproof case for the several plies of cotton that make for the strength and life of a tyre. Cotton has long since proved itself the best resister to the heat required during the vulcanizing process, and with more and still more motors coming on the roads—not to mention the millions of cyclists—there is no likelihood of any decline in the 700 million pounds of cotton consumption, not even when one remembers the huge mileages obtainable from modern tyres. To-day the cotton industry can supply cotton cord that will last for 100 000 miles, or even more.

(Lancashire Weekly)

SIR JOHN H. GREY.

The entire cotton industry of Lancashire, both employers and operatives alike, has expressed great satisfaction at the recent bestowal of a knighthood upon Mr John H. Grey, J.P., of Burnley. Few people have given so unstintingly of their time or spent themselves so wholeheartedly in the cause of Lancashire's staple industry as has Sir John.

He has represented the Cotton Spinners' and Manufacturers' Association of Great Britain both at Congresses and on the Committee of the International Cotton Federation for a number of years, and he is well known and respected by his many foreign friends with whom he has been associated during the course of his work in connection with the International Federation.

On behalf of the International Federation, therefore, we extend to Sir John hearty congratulations upon the honour which has been conferred upon him, together with our best wishes for his future welfare.



Reviews on Current Cotton Literature.

"DER KAMPF UM DIE WELTMACHT-BAUMWOLLE" (The Fight for World-Power Cotton), by Anton Zischka, published at RM 3 80, by Wilhelm Goldmann Verlag, Leipzig, Bern, Vienna

This is a book written in the German language in a fascinating style by a clever Austrian journalist who has travelled extensively in many parts of the world, and describes the romance of cotton more on the basis of his readings of many technical reports, particularly of Cotton Growing Associations and of the International Cotton Federation than from his own observation. The cotton man will detect in various places slight defects of a technical nature. The book seems to convince the lay-reader of the folly to start new cotton plantations whilst the existing ones produce a superabundance, or of the lunacy to add more spindles and looms whilst the existing ones are largely idle. He accuses Lancashire, and at times U.S.A., of driving the price of cotton up, as if these centres had it in their power to increase or reduce the price at will. He ignores that the cost of production and the yield in U.S.A. are out of relation to the lower costs and higher yields of other new cotton-producing countries, that U.S.A. are too conservative and refuse to adopt those reforms which their clients have advocated for a generation.

The world is in a constant flux. The country which to-day is the largest and most advantageous supplier of raw cotton, cotton goods, or any commodity, will not always be in that position, as history clearly demonstrates, and the author himself gives several examples of this kind. Though it may not appear so at first sight, in the long run all this change means progress, advancement of one at the expense of the other, who, in many cases, in consequence of affluence has ceased to progress with the times. The author wants the world to adopt a world-embracing economic plan—which sounds very nice in theory—to avoid all this waste created by the survival of the fittest, and he finally leads the reader to the conclusion that if we had world-wide free trade all these disparities and economic follies would settle themselves in a natural way. But at the end he justifies the establishment of synthetic fibre-substitutes in the belief that they would abolish monopolies and speculation, or at all events reduce them considerably, as adjustments between demand and supply could be made regardless of the vagaries of the weather.

The author admits that these substitutes are dearer than cotton, and are not yet as lasting as those fibres which they are supposed to replace. Zischka justifies the spending of enormous sums in establishing the factories on a huge scale for making synthetic cotton for the purpose of killing the gigantic natural cotton empire. If the world would spend part of the money that is at present being used for the development of synthetic fibres on scientific cotton research, on creating higher-yielding varieties, longer and stronger ones, on reorganizing the antiquated methods of handling cotton

from field to factory, it would be found that King Cotton is not yet dead and can withstand the onslaught of all imitations. Unfortunately, it has become a fashion for the best scientific brains to turn their attention to artificial silk and by-products, if they were to work on behalf of cotton research they would very probably do the world a greater service. Cheapen the cost of production, and we shall find work for the efficient machinery and use for the cotton that the world produces. Zischka tells us that a milliard of people are still going about naked or almost so.

Zischka's chapters on Abyssinia and his reference to Japanese machinations in that country are entertaining, but one cannot help but doubt the correctness of the reasoning that is alleged to lie behind the recent events in that country. The chapter on Russian cotton is good; a great deal more should have been written about Brazil, South America in general, China and India.

The author makes too frequent use of superlatives and of the word "fantastic"; at various places he attributes to certain enterprises a political motive where none has existed, for the purpose, it seems, to fit his reasoning, how cotton was and still is the driving force to many political measures, even to wars. But, with all its faults, the reader will agree that Zischka's book is most entertaining and supplies food for thought.

A world's free trade is no doubt Utopian under present nationalistic tendencies, perhaps after the next world upheaval that old cure-all remedy: "Free Trade for *All* the World" may become practicable.

A. S. P.

"COTTON GOES TO MARKET." By Alton Hill Garside. Published by Fred A. Stokes Co., 443-9, Fourth Avenue, New York, at \$3.50. 411 pp. illustrated.

In this present book Mr. Garside has laid before his readers a very complete picture of cotton from the time the land is prepared to when the fibre is sold to the spinner. He deals with all its stages of cultivation, qualities, classing cotton, transportation, and marketing in the various types of markets. He naturally deals very carefully and thoroughly with the futures markets, not only that in New York, but the other futures markets in U.S.A.

As one would expect when the author is the Economist of the largest Cotton Futures Exchange in the world, he discusses the question of hedging and all kinds of futures transactions not only with authority, but in great detail. Mr. Garside also includes a chapter touching on the formation of cotton prices.

Those entering the cotton industry in whatever capacity, be it marketing or be it on the industrial side, will find that this book provides them with a basic knowledge which will stand them in good stead, while those of more experience in the trade may find it useful in rounding off their knowledge of this subject. In any case, it is an interesting and absorbing book packed with valuable information to those engaged in the trade.

European readers may obtain copies of this book from Mr. Dudley Windel, Knowsley Buildings, 15, Tithebarn Street, Liverpool, 2. Price 15s, post free.

"THE EMPIRE COTTON GROWING REVIEW," July, 1935. Published quarterly by Messrs. P. S. King & Son Ltd., 14, Great Smith Street, London, S.W.1, for the Empire Cotton Growing Corporation. Annual subscription, 5s. post free.

The following articles are the prominent features of the current issue of this publication: "The Origin and Development of U4 Cotton," by F. R. Parnell; "Cotton in Swaziland," by J. V. Lochrie; "Locusts and a Rational Anti-Lust Policy," by B. P. Uvarov; "Cotton and Rayon," by A. J. Turner; "Drainage in the Sudan Gezira," by H. Greene and M. A. Bailey; "The Correlation of Certain Characters in Egyptian Cotton," by C. H. Brown.

"COMBINED REPORT ON THE INVESTIGATIONS INTO THE FINANCE, SOWINGS AND MARKETING OF CULTIVATOR'S COTTON IN THE TIRUPUR TRACT, MADRAS PRESIDENCY (SEASON 1932-33), by S. V. Duraiswami, B.A., B.Sc., Ag. Reprinted by the Indian Central Cotton Committee from "Agriculture and Livestock in India," January, 1935.

During the course of an interesting survey, the author touches upon the method of cotton-growing in two villages in the district under review. The total area under cotton at one village was 176 acres, and at the other 1,552 acres (area grown by all the cultivators investigated). In the latter village the area under Uppam variety was 13 per cent. The area under cotton showed an increase over that of the previous year, in both villages. The tendency is to put down as much area under cotton as possible. This crop does not require operations of a tedious or expensive nature. The produce is disposed of at the ryots' doors. It is the best money-fetching crop in both villages.

"ECONOMIC CONDITIONS IN SPAIN, FEBRUARY, 1935." Report by Mr. Alexander Adams, formerly Commercial Counsellor, British Embassy, Madrid. Printed and published for the Department of Overseas Trade by H.M. Stationery Office. Price 1s. 6d. net.

Touching upon the situation of the textile industry in Spain, the author states: "The situation of the textile industry in Catalonia worsened during the year. Sales on the Barcelona Market were much below the level of 1930, while the textile industry in particular was faced not only with the special conditions of world economy but with the special difficulties of exporting the manufactured goods, in consequence of the restrictions and quotas prevailing abroad, and also of the difficulties which have arisen in the way of obtaining payment for goods exported to certain countries in South America and Eastern Europe. The depressed state of the market in Spain itself and these difficulties in obtaining payment for exported goods led to the heaping up of stocks of manufactured goods in the mills. Even those companies which are working on short time are piling up stocks, being unable to dispose of the finished material to customers. The congestion of the market has been relieved to some extent through banking credits, and it is hoped that a general slight rise in consumption will take

place in Spain in 1935, which will relieve the mills of some proportion of the stocks now on hand.

THE COTTON TRADE JOURNAL (Annual International Edition), 1934-35." Published by the *Cotton Trade Journal*, New Orleans, La. Price \$2.50

The eighth international edition of this publication is in no wise lacking in the original and comprehensive contributions which first attracted the attention of the cotton world some few years ago. In our opinion this issue is going to be just as popular in Europe as it is in the USA, owing to the fact that no end of trouble has been taken in order to obtain articles from many prominent heads of various branches of the European cotton industry.

At such a time as this a prominent place in the book must naturally be given to the cotton policy of the United States Government. To this end, therefore, are published articles from such authorities as Secretary of Agriculture Henry A. Wallace, Under-Secretary of Agriculture; Rexford G. Tugwell, Secretary of Commerce, Daniel C. Roper, and Mr. Oscar Johnston, who express their latest official views, chiefly as uttered before the Senate Committee on Agriculture.

A study of the potentialities of Brazil as a cotton-producing country is also well worthy of note.

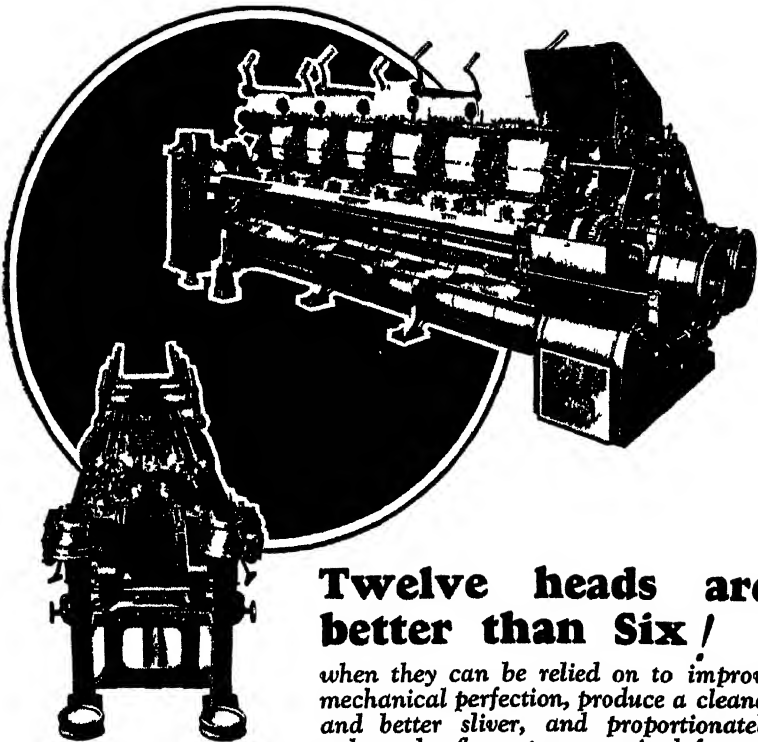
Nor are the views of the European cotton spinners upon various matters regarding American cotton neglected, even when these involve sharp criticisms of American methods of baling and packing, as is evinced by the contribution of the late Monsieur Roger Seyrig, of France, or Germany's inability to purchase more raw cotton from America owing to the unwillingness of U.S.A. to purchase German goods, as set out in a well-written article by Dr. Hendrik van Delden, President of the German Spinners' Association.

BOOKS RECEIVED.

"ECONOMIC CONDITIONS IN SIAM, 1934." Report by Mr. J. Bailey, British Consul-General at Bangkok, and Mr. R. Whittington, Vice-Consul at Bangkok. Printed and published for the Department of Overseas Trade by H.M. Stationery Office. Price 1s. 9d. net.

"HISTORY AND CONTROL OF THE BOLL-WEEVIL IN OKLAHOMA." Published by the Oklahoma Agricultural and Mechanical College Experimental Station, Stillwater, Oklahoma. Bulletin No. 222.

"STUDIES IN THE WILT DISEASE OF COTTON IN THE BOMBAY PRESIDENCY," by G. S. Kulkarni, M.Ag. Reprinted from the Indian Journal of Agricultural Science by the Indian Central Cotton Committee.



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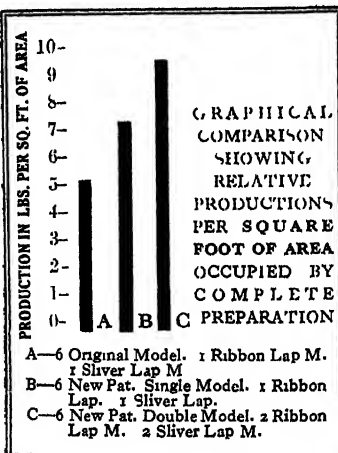
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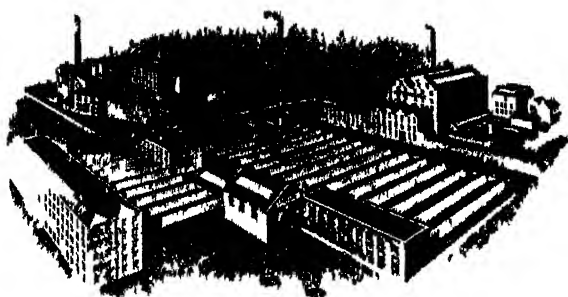
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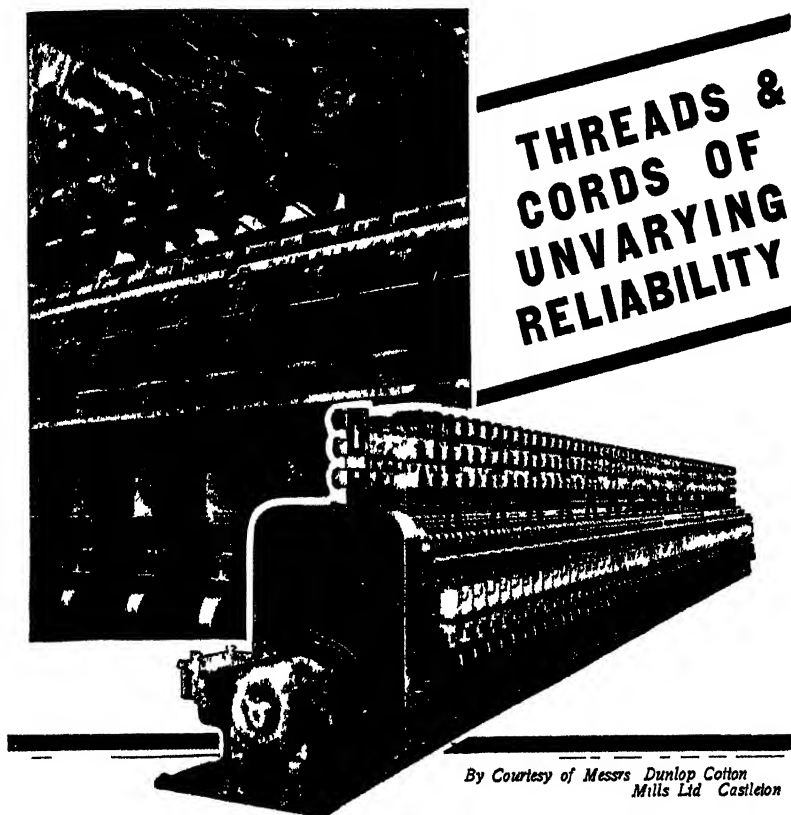
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ALPHABETICAL INDEX

TO THE

International Cotton Bulletin

NOS. 49 TO 52, REPRESENTING VOLUME XIII.

This Index should be inserted in BULLETIN NO. 52. The use of this carefully prepared Index will be found extremely valuable in case of reference to the hundreds of questions dealt with in the INTERNATIONAL COTTON BULLETIN.

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